TM 11-7450-203-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DS, GS, AND DEPOT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOL LISTS

RECORDER-REPRODUCER SET SOUND AN/TNH-16

HEADQUARTERS, DEPARTMENT OF THE ARMY

APRIL 1968

Warnings

1. Disconnect recorder from the ac power source before working on chassis components.

2. Terminals 1, 2, 3, 6, and 8 of input receptacle (fig. 2–2) carry approximately 130 to 150 volts dc. Terminals 4 and 5 have ac line voltage on them. Use insulated tools when working with these terminals.

Cautions

1. Use an isolation transformer between the test equipment and the line when servicing this equipment.

2. Do not use fuses rated above the specified value. Damage to the equipment may result.

3. Never rock or rotate a tube when removing it from a socket; pull it straight out with a tube puller.

TECHNICAL MANUAL
No. 11-7450-203-15

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *4 April 1968*

Operator, Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists
RECORDER-REPRODUCER SET, SOUND AN/TNH-16

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1–1. Scope

a. This manual describes Recorder-Reproducer Set, South AN/TNH–16 and covers its installation, operation, functioning, and maintenance. Throughout this manual, other publications are referenced, where appropriate, for detailed information covering the major operating components of the AN/TNH–16.

b. Appendix A contains a list of publications applicable to this manual. Appendix B contains the list of major components required for initial operation. Appendix C contains the maintenance allocation and repair operations to be performed at the appropriate maintenance categories. Appendix D contains a list of special maintenance and operating supplies for the equipment.

c. Appendixes B, C, and D are current as of *5 February 1968.*

1–2. Indexes of Publications

a. DA Pam 310–4. Refer to DA Pam 310–4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310–7. Refer to DA Pam 310–7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

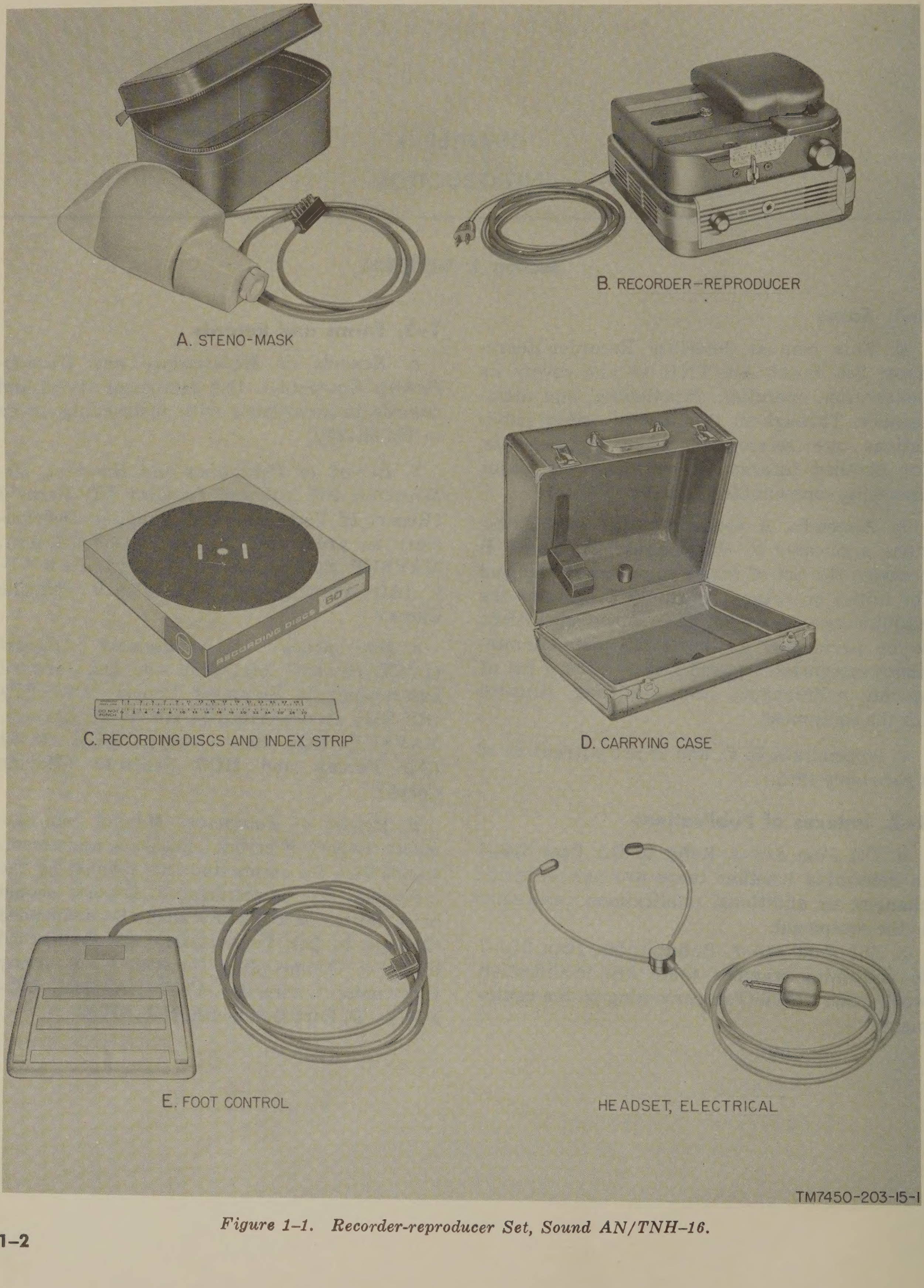
1–3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Use equipment forms and records in accordance with instructions given in TM 38–750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700–58 (Army), NAVSUP Publication 378 (Navy), AFR 71–4 (Air Force), and MCO P4610 (Marine Corps).

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55–38 (Army), NAVSUP Pub 459 (Navy), AFM 75–34 (Air Force), and MCO P4610.19 (Marine Corps).

d. Report of Equipment Manual Improvements. Report of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U. S. Army Electronics Command, ATTN: AMSEL–ME–NMP–AD, Fort Monmouth, N.J., 07703.



A. STENO-MASK

B. RECORDER-REPRODUCER

C. RECORDING DISCS AND INDEX STRIP

D. CARRYING CASE

E. FOOT CONTROL

HEADSET, ELECTRICAL

Figure 1-1. Recorder-reproducer Set, Sound AN/TNH-16.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use
(fig. 1-1)

Recorder-Reproducer Set, Sound AN/TNH-16 records sound on, and reproduces sound from, disks in the frequency range from 200 to 4,000 Hz. The equipment provides for recording and reproducing office dictation, telephone conversations, or conferences.

1-5. Technical Characteristics

Voltage requirements	105- to 125-volt, 60-Hz, single-phase ac.
Power requirements:	
Maximum	60 watts.
Record	50 watts.
Playback	48 watts.
Disk size	8½-inch diameter.
Running time	30 minutes per side (approx).
Disk speed	6.4 inches per second.
Recorder stylus	0.001 inch, diamond-tipped.
Microphone	Dynamic, 16,000 ohms impedance.
Reproducer stylus	0.002 inch, sapphire-tipped.
Number of tubes	4.
Power output	3.0 watts.
Harmonic distortion	5% (maximum).
Input impedance	500,000 ohms, unbalanced.
Output impedance	4 ohms (loudspeaker); 12 ohms (output jack).
Frequency response	3 db, 200 to 4,000 Hz.
Signal-to-noise ratio	35 db (average).

1-6. Table of Components

The components and running spares of the AN/TNH-16 are listed in the basic issue items list (app B).

1-7. Description of Recorder-Reproducer
(fig. 2-2)

a. The recorder-reproducer consists of an amplifier, drive motor, disk drive and cutting mechanism, indexing mechanism, backspace mechanism, drive controls, and a metal housing.

b. The upper frame assembly is hinged and can be opened to provide access to amplifier tubes and internal mechanisms. A fuse holder, SPEAKER switch, and RECORD VOLUME control are accessible from the bottom.

1-8. Description of Stenomask
(fig. 1-2)

The stenomask consists of a rubber facepiece, facepiece frame, connecting cable, and main barrel. A switch housing on the main barrel contains a switch for starting and stopping the recorder-reproducer. The start-stop button cover completely incloses the switch mechanism. Also, a microphone is contained in the housing. A case is provided for storing the stenomask.

1-9. Description of Carrying Case
(fig. 1-1)

The carrying case is a two-piece, simulated leather case. Positioning ridges on the bottom piece align the recorder-reproducer with rubber bumpers and a wooden holddown block when the case is closed. One rubber bumper and the wooden holddown block are mounted inside the cover; a spring-steel strap is used to hold the technical manual.

1-10. Description of Headset Electrical
(fig. 1-3)

The headset, electrical consists of a phone plug-transducer, connecting hoses, and earpieces. A small transducer in the phone plug converts the electrical signal to sound which is air-coupled through the connecting hose to the earpieces.

1-11. Description of Foot Control
(fig. 1-4)

The foot control consists of control switches for stop, start, and backspace operations. It is inclosed in a two-piece aluminum housing. A 5-foot rubber cable with a 5-pin, molded-on connector connects the foot control to the recorder-reproducer.

1-12. Description of Recording Disks
(fig. 1-1)

The recording disks are made of pressed-polished polyvinyl material, 0.010 inch thick. A hole in the center of the recording disk fits over the spindle on top of the recorder-reproducer.

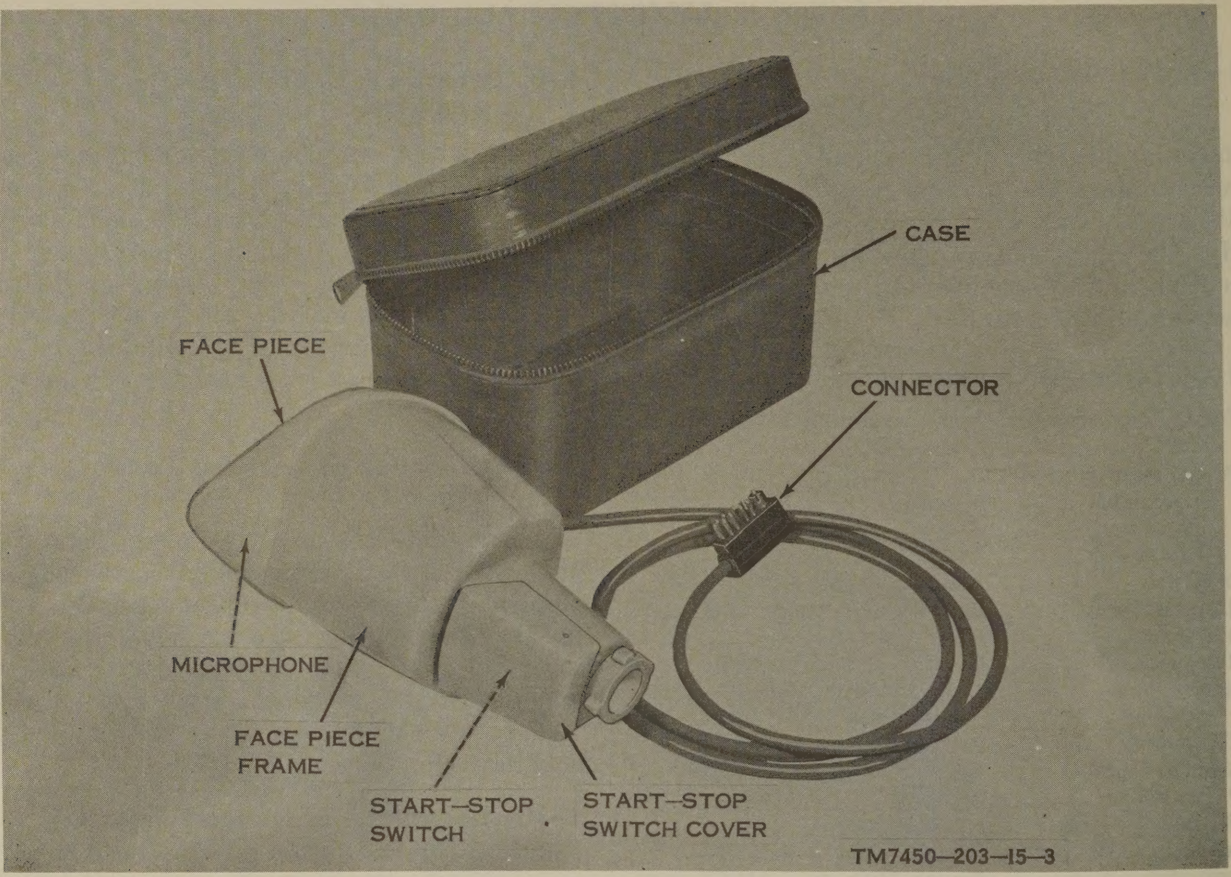


Figure 1-2. Stenomask.

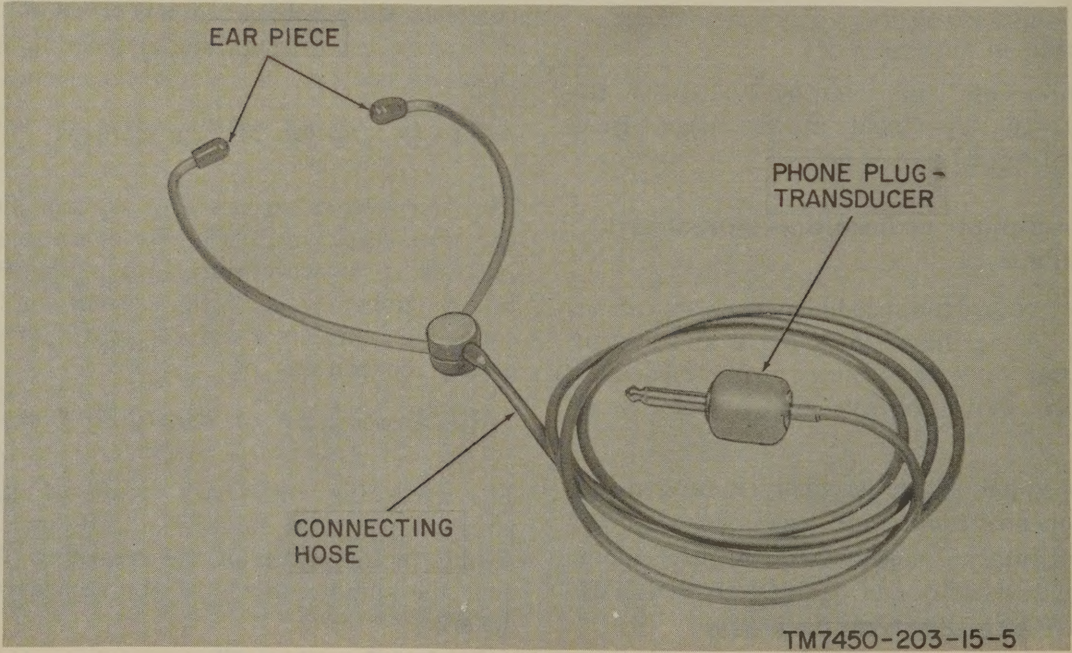


Figure 1-3. Headset, electrical.

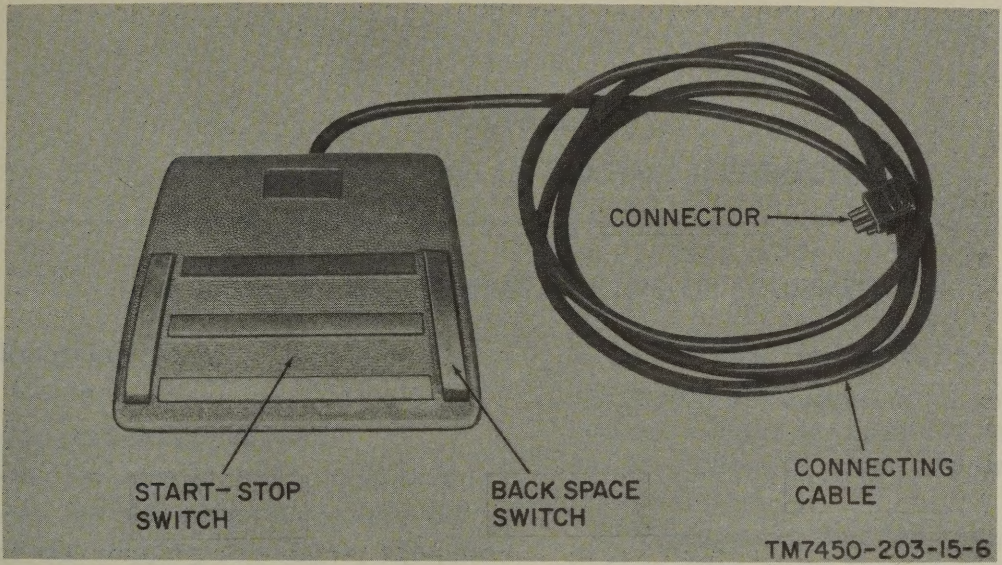


Figure 1-4. Foot control.

1-13. Description of Index Strips
(fig. 1-1)

A permanent plastic index strip provides a timing reference for each disk. These strips are calibrated in 1/4-minute intervals up to 30 minutes.

CHAPTER 2

INSTALLATION AND OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Unpacking
(fig. 2-1)

Remove the contents as follows:

Caution: **Be careful when unpacking the equipment. Do not thrust tools into the interior of the shipping containers; equipment damage may result.**

a. Remove the metal straps from the wooden packing case.

b. Remove the nails from the wooden cover (use nailpuller, if available) and remove the cover.

c. Carefully slit the waterproof paper liner.

d. Lift the corrugated carton from the case.

e. Carefully slit the corrugated carton, the moisture-vaporproof barrier, and remove the individual equipment cartons from the moisture-vaporproof barrier.

f. Open the individual equipment cartons and remove the equipment.

2-2. Checking Unpacked Equipment

a. Inspect the equipment for possible damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6 (para 1-3).

b. Check to see that the equipment is complete as listed on the packing slip. If a packing slip is not available, check the equipment against the basic issue items list (app. B). Report all discrepancies in accordance with TM 38-750. Shortage of a minor assembly or part that does not affect proper functioning of the equipment should not prevent use of the equipment.

c. If the equipment has been used or reconditioned, check to see whether it has been changed by a modification work order. If the equipment has been modified, the MWO number will appear on the front panel near the nomenclature plate. Check to see whether the MWO number (if any) and appropriate notation concerning the modification have been entered in the equipment manual.

Note. Current MWO's applicable to the equipment are listed in DA Pam 310-7.

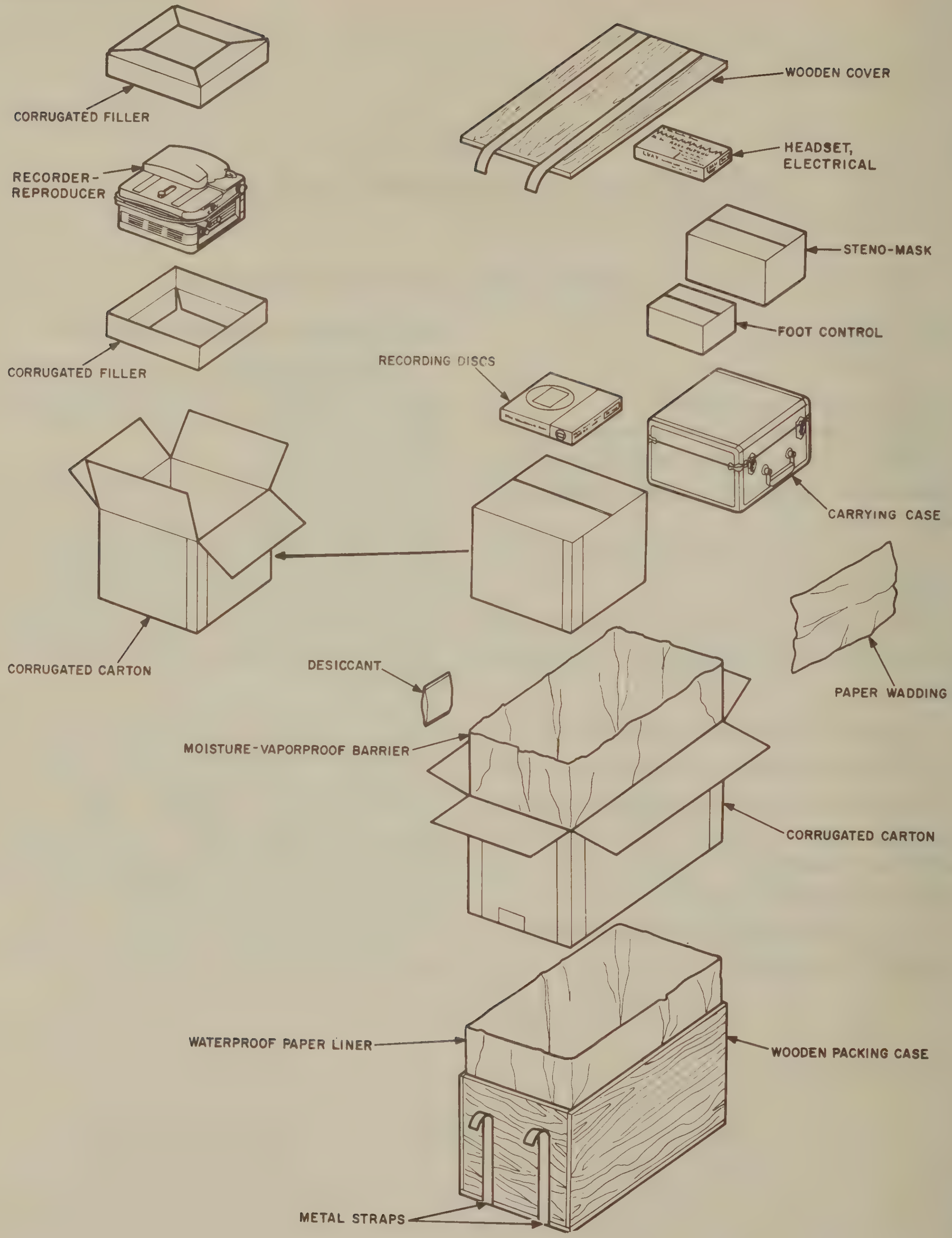


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Figure 2-1. Packaging data.

Section II. INSTALLATION

2–3. Power Connections
(fig. 2–2)

Place the recorder-reproducer on a suitable table or bench and plug the power plug into a 115 ±10-volt 50 to 60 Hz power outlet. The power cord is approximately 7 feet long.

2–4. Operational Connections

a. Recording. For normal recording, insert the stenomask cable connector into the receptacle at the rear of the recorder-reproducer.

b. Playback. For playback operation, insert the foot control connector into the receptacle at the rear of the recorder-reproducer, and plug the headset phone plug into the receptacle at the front.

Section III. OPERATION

Note. This section covers only items used by the operator; items used by maintenance personnel are covered in instructions for the appropriate category.

2–5. Recorder-Reproducer Set, Sound AN/TNH–16, Controls and Indicators

a. Recorder-Reproducer (fig. 2–2).

Control	*Function*
On-off-volume control.	When turned clockwise, turns on power to amplifier and drive circuit. Adjusts playback volume. Turns off power when fully counterclockwise.
Tone control	Adjusts tone of playback sound.
Volume level indicator.	Indicates volume level. Glows moderately for normal recording.
Headset, electrical receptacle.	Connection for headset. Disconnects internal speaker when headset is plugged in.
Receptacle (rear)	Connections for stenomask or foot control.
Scanning knob	Allows positioning of record or reproducer head on disk.
Index strip	Provides a time reference for disk being recorded or played back.
Index pointer	Reference point for index strip.
Red-tooth stop	Used to align index strip when inserting index strip in recorder.
RECORD-LISTEN lever.	Selects mode of operation.

SW position	*Action*
CENTER	Recorder-reproducer in neutral.
RECORD	Recorder-reproducer records.
LISTEN	Recorder-reproducer plays back.

Control	*Function*
Pilot lamp	Indicates status of recorder-reproducer.

Lamp Color	*Recorder-repoduction condition*
White	On
Red	Listen
Green	Record

Control	*Function*
RECORD VOLUME control (bottom).	Increases or decreases record volume level (screwdriver adjustment).
SPEAKER switch (bottom).	Controls internal speaker.

SW Position	*Action*
OFF	Turns internal speaker off.
ON	Turns internal speaker on.

b. Stenomask (fig. 1–2).

Control	*Function*
Start-stop switch	Starts and stops recorder-reproducer.

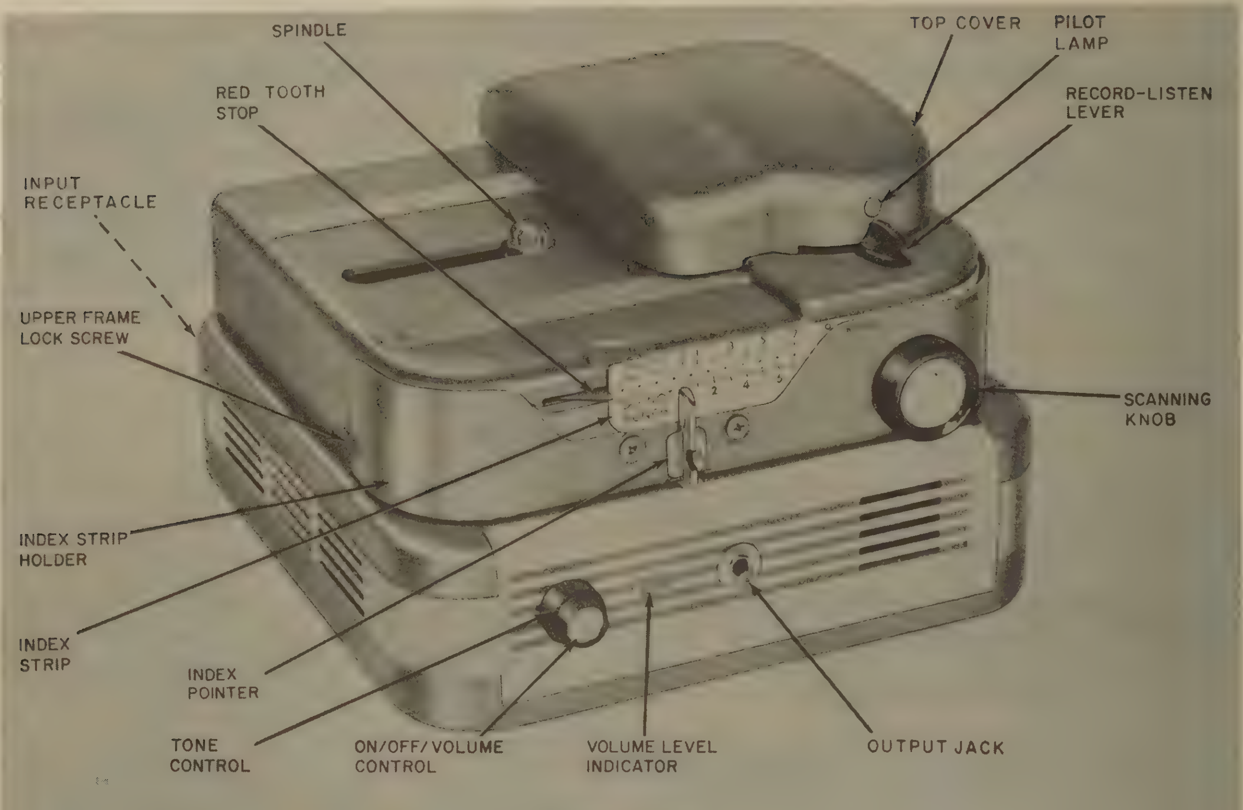
c. Foot Control (fig. 1–4).

Control	*Function*
Start-stop switch	Controls starting and stopping of recorder during playback.
Backspace switch	Backspaces disk approximately 2 to 3 grooves when pressed.

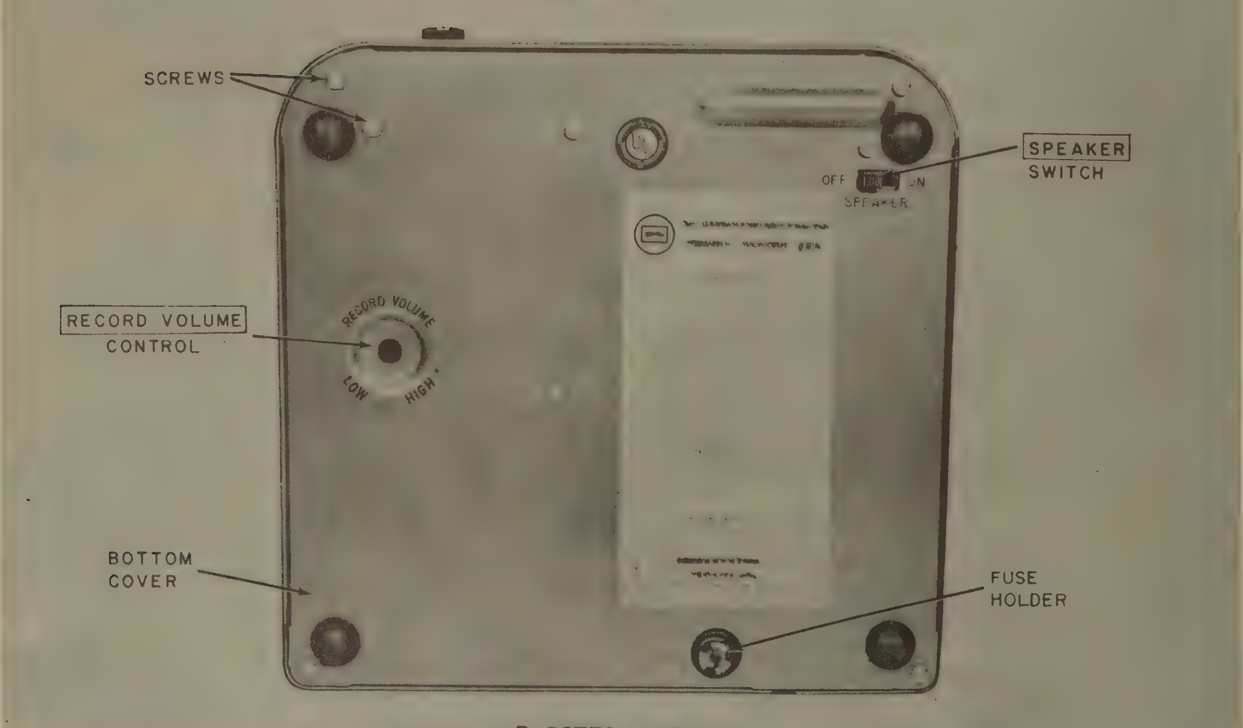
2–6. General Operating Instructions

a. The recorder-reproducer can be used to record or play back information. When recording, the stenomask microphone acts as an earpiece to listen to what has been recorded. During playback, the foot switch and headset are used.

b. An internal speaker can be used for listening also. When plugged into the recorder-reproducer, the headset automatically turns off the speaker.



A. FRONT VIEW



B. BOTTOM VIEW

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Figure 2-2. Recorder-reproducer, controls and indicators.

2-7. Operation

a. To Record (fig. 2-2). Record information as follows:

(1) Move the RECORD-LISTEN lever to the neutral (center) position.

(2) Turn the on-off volume control clockwise. Note that the pilot lamp glows white.

(3) Position the spindle to the extreme right with the scanning knob.

(4) Insert a disk under the cover and over the spindle. Seat the disk on the spindle.

(5) Insert the rounded corner of the index strip behind the index strip holder and slide it to the left until it touches the red-tooth stop, and engages the gear teeth with the index strip perforations. Push the index down so it is seated along its length.

(6) Plug the stenomask connector into the receptacle at the rear of the recorder-reproducer.

(7) Depress the start-stop button on the stenomask, and move the RECORD-LISTEN lever to RECORD. Release the button on the stenomask when ready to record.

b. Playback. Listen to recorded material as follows:

(1) Move the RECORD-LISTEN lever to the center (neutral) position. Reposition the disk with the scanning knob.

(2) Depress the start-stop button on the stenomask; move the RECORD-LISTEN lever to LISTEN. Release the button on the stenomask and adjust the off-on-volume and tone controls for the desired sound.

Note. Unless the SPEAKER switch is at OFF, sound will be heard from both the stenomask and speaker.

c. Transcriber (fig. 2-2). Transcribe recorded information as follows:

(1) Perform the procedures in *a*(1) through (5) above.

(2) Plug the foot switch connector into the receptacle at the rear of the recorder-reproducer. Plug the headset plug into the receptacle at the front of the recorder-reproducer.

(3) Move the RECORD-LISTEN lever to LISTEN. Depress the start-stop switch on the foot control and adjust the on-off-volume and tone controls.

d. Backspace. To backspace, proceed as follows:

(1) Release the start-stop switch on the foot control.

(2) Depress the backspace switch on the foot control as many times as required to find the desired recorded material. Depress the start-stop switch.

Note. When the headset is plugged in it automatically turns off the internal speaker. Remove the headset plug and check the SPEAKER switch to be sure it is at ON if the speaker is to be used.

2-8. Stopping Procedure

a. Recording. To stop the recorder-reproducer during recording, proceed as follows:

(1) Press the start-stop switch on the stenomask and move the RECORD-LISTEN lever to center (neutral) position.

(2) Press the spindle down and grasp the edge of the disk. Pull slightly to release the spindle and remove the disk from the recorder-reproducer.

(3) Note the position of the index strip, and position the spindle to the extreme right, and remove the index strip.

Note. A partially recorded disk can be used continually until filled to capacity. Position the disk with the scanning knob to a clear area on the disk, and use the disk normally.

b. Transcription. To stop the recorder-reproducer during transcription, proceed as follows:

(1) Release the start-stop switch on the foot control and move the RECORD-LISTEN lever to the center position.

(2) Perform the procedures in paragraph 2-7*a*(2), (3), and (4).

CHAPTER 3

OPERATOR AND ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. OPERATOR'S MAINTENANCE

3-1. Scope of Operator's Maintenance

The maintenance duties assigned to the operator of the AN/TNH-16 are listed below, together with a reference to the paragraphs covering the specific maintenance functions. These duties assigned do not require special tools or test equipment other than those issued with the equipment.

a. Daily preventive maintenance checks and services (para 3-3 and 3-4).

b. Cleaning (para 3-5).

c. Troubleshooting (para 3-6).

3-2. Tools, Materials, and Test Equipment Required

The only tools required for operator's maintenance are those furnished as part of the equipment. No test equipment is required for operator's maintenance. The materials required are as follows:

a. Cloth, textile, cheesecloth (FSN 8305-267-3015).

b. Cleaning compound (FSN 7930-395-9542).

3-3. Operator's Preventive Maintenance

Operator's preventive maintenance is the systematic care, servicing, and inspection of the AN/TNH-16 to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is serviceable.

a. Systematic Care. The procedures given in paragraphs 3-4 and 3-5 cover routine systematic care and cleaning essential to proper upkeep of the recorder-reproducer.

b. Preventive Maintenance Checks and Services. The preventive maintenance checks and services chart (para 3-4) outlines functions to be performed daily. These checks and services are necessary to maintain the AN/TNH-16 in a serviceable condition; that is, in good general (physical) condition and in good operating condition. The chart indicates what to check, how to check, and the normal conditions; the *References* column lists the illustrations, paragraphs, or manuals that contain detailed maintenance procedures. If the defect cannot be remedied by the operator, higher category of maintenance is required. Records and reports of these checks and services must be made in accordance with the requirements set forth in TM 38-750. If the equipment is in a standby status, the preventive maintenance checks and services listed in paragraph 3-4 must be performed weekly.

3-4. Daily Preventive Maintenance Checks and Services Chart

Sequence No.	*Item to be inspected*	*Procedure*	*References*
1	Exterior surfaces	Clean the external surfaces of the AN/TNH-16 and accessories. While cleaning, check for broken or damaged connectors.	Para 3-5
2	Disk and facial tissue supply for stenomask.	Inspect for sufficient quantity and reserve supply. (Tissues absorb moisture that collects in the stenomask.)	
3	Knobs and switches	While making the operational check (items 4 through 8), check the mechanical action of each knob and switch for smooth and free operation and absence of binding.	

Sequence No.	*Item to be inspected*	*Procedure*	*References*
4	On-off-volume control	Turn clockwise. Pilot lamp should glow white. With the recorder-reproducer playing back a disk, rotate tone control to each limit. Tone should change from bass to treble over the range of the control.	Fig. 2–2
5	RECORD-LISTEN lever	*a.* With a disk on the recorder-reproducer, move the RECORD-LISTEN lever to LISTEN. Pilot lamp should glow red and disk should rotate. *Note.* If an accessory is connected, its start-stop switch must be operated for the above condition. Return RECORD-LISTEN lever to center (neutral) position. *b.* With a blank disk on the recorder-reproducer, move the RECORD-LISTEN lever to RECORD. Pilot lamp should glow green, and disk should rotate. Check to be sure grooves are being embossed in disk. *Note.* If the stenomask or foot control is connected, the start-stop switch must be operated for the above procedure. Return RECORD-LISTEN lever to neutral.	Fig. 2–2
6	Scanning knob	With RECORD-LISTEN lever in neutral position, rotate scanning knob. Check to see that disk moves to any position within usable area. With RECORD-LISTEN lever in LISTEN position, check to see that disk moves to any usable position. With RECORD-LISTEN lever in RECORD position, scanning knob should turn freely. Disk must not move when RECORD-LISTEN lever is in RECORD position.	Fig. 2–2
7	SPEAKER switch	Slide switch between the ON and OFF positions while listening to a disk. Check to see that speaker shuts off in OFF position.	Fig. 2–2
8	Headset, electrical receptacle.	Insert headset plug into receptacle while playing back a recorded disk with the speaker on. Check to see that speaker is turned off while headset is plugged in.	Fig. 2–2
9	Backspace mechanism	Depress backspace switch on foot control. Disk should backspace 2 to 3 grooves.	Fig. 1–4
10	Electrical cords and connectors.	Inspect electrical cords for cuts or fraying. Check connectors for cracks and broken or damaged pins.	Fig. 1–1

3–5. Cleaning Procedures

Inspect the exterior surfaces of the AN/TNH–16. The exterior surfaces must be free of dust, dirt, and grease.

a. Remove dust and loose dirt with a clean, soft cloth or a brush.

***Warning:* Cleaning compound is flammable and its fumes are toxic. Provide adequate ventilation. DO NOT use near a flame.**

b. Use a cloth dampened (not wet) with cleaning compound to remove grease, fungus, and hard-to-remove dirt from the carrying case cover and cable.

c. Clean the external panel and control knobs with a soft, clean cloth. If necessary, slightly dampen the cloth with water and use mild soap.

3–6. Operator's Troubleshooting Chart

a. General. The operator's troubleshooting chart supplements the operational portion (items 4 through 9) of the operator's daily preventive maintenance checks and services chart (para 3–4) and is furnished to help the operator locate and correct a malfunction. Only those corrective measures which the operator can accomplish are given. If the measures suggested do not restore normal equipment performance, higher category maintenance is required.

b. Procedure. With the AN/TNH–16 in operation (para 2–6), note the apparent trouble symptom. Locate the symptom in the chart (*c* below), note the probable trouble, and take the indicated corrective action for each probable trouble. If the indicated corrective action does not restore the recorder-reproducer to an operable condition, report the deficiency in accordance with TM 38–750.

c. Troubleshooting Chart.

No.	*Symptom*	*Probable trouble*	*Checks and corrective measures.*
1	Recorder-reproducer pilot lamp does not light.	*a.* Power cord plug not inserted properly.	*a.* Insert power cord plug into receptacle.
		b. Fuse blown	*b.* Replace fuse.
2	Motor does not start	Stenomask connector not inserted properly.	Reinsert stenomask connector. Check for broken connector pins.
3	Disk slips	Oil or grease on disk	Clean disk of oil or grease.
4	High noise, scratchy	Disk scratched or dirty	Clean disk. Replace badly scratched disk.
5	No sound from speaker	*a.* Defective SPEAKER switch	*a.* Return to general support maintenance facility.
		b. Defective headset receptacle	*b.* Return to direct support maintenance facility.
6	Volume level indicator lamp does not glow when recording.	*a.* RECORD VOLUME control set too low.	*a.* Refer the equipment to organizational maintenance personnel (para 3–18).
		b. Broken or loose connections	*b.* Check cables for proper connection (para 2–3).
7	No sound in headset	Defective headset receptacle	Return to direct support maintenance facility.
8	Disk does not backspace	*a.* Loose or broken connection	*a.* Check external cable for loose or dirty connection.
		b. Defective backspace switch in foot control.	*b.* Return to direct support maintenance facility.

Section II. ORGANIZATIONAL MAINTENANCE

3–7. Scope of Organizational Maintenance

a. This section contains instructions covering organizational maintenance of the AN/TNH–16. It includes instructions for performing periodic preventive maintenance checks and services, adjustment procedures, and those corrective procedures to be performed by the organizational repairman.

b. Organizational maintenance of the AN/TNH–16 includes:

(1) Weekly and monthly preventive maintenance checks and services (paras 3–9, 3–10, and 3–11).

(2) Organizational troubleshooting (para 3–13).

(3) Removal and replacement of organizational spare parts (para 3–14).

(4) Lubrication (paras 3–15, 3–16, and 3–17).

(5) Retouching painted surfaces (para 3–12).

(6) Adjusting RECORD VOLUME control (para 3–18).

3–8. Tools, Materials, and Test Equipment Required for Organizational Maintenance

A list of replacement parts authorized for organizational maintenance appears in appendix D. The tools, materials, and test equipment required for organizational maintenance are listed below.

a. Tools.

(1) Seven-pin tube puller.

(2) Nine-pin tube puller.

(3) Tool Kit, Radio Repair TK–115/G.

b. Materials.

(1) Cleaning compound.

(2) Abrasive sheet, sandpaper, 8 by 12 inch (FSN 5350–271–7939).

(3) Cloth, cheesecloth, lint free; 36 inches (FSN 8305–267–3015).

(4) Tape TL–83 (FSN 5970–408–4036).

(5) Orangestick (FSN 5120–408–4036).

(6) Lubricating oil, general purpose (FED VV–L–800) (FSN 9150–273–2389).

(7) Grease, aircraft and instrument (GL) (MIL–G–23827) (4-ounce can, FSN 9150–

985-7244; 8-ounce can, FSN 9150-985-7245).

c. Test Equipment.

(1) Multimeter AN/URM-105.

(2) Test Set, Electron Tube TV-7/U.

3-9. Organizational Preventive Maintenance

a. Organizational preventive maintenance is the systematic care, inspection, and servicing of equipment to maintain it in serviceable condition, prevent breakdowns, and assure maximum operational capability. Organizational preventive maintenance is the responsibility of organizational maintenance personnel. It includes the inspection, testing, and replacement of parts, subassemblies, or units that inspection and tests indicate probably would fail before the next scheduled periodic service. Organizational preventive maintenance checks and services of the AN/TNH-16 are made weekly and monthly unless otherwise directed by the commanding officer.

b. Perform the maintenance functions indicated in the weekly and monthly preventive maintenance checks and services charts (paras 3-10 and 3-11). A week and a month are defined as approximately 7 and 30 calendar days of 8 hours a day operation respectively. If the equipment is operated 16 hours a day, the weekly and monthly preventive maintenance checks and services should be performed at 4- and 15-day intervals, respectively. Adjustment of the maintenance interval should be made to compensate for any unusual operating conditions. Equipment maintained in a standby (ready for immediate operation) condition must have monthly preventive maintenance performed on it. Equipment in limited storage (requires service before operation) does not require monthly preventive maintenance.

c. Maintenance forms and records to be used and maintained on this equipment are specified in TM 38-750.

3-10. Weekly Preventive Maintenance Checks and Services Chart

Sequence No.	*Item to be inspected*	*Procedure*	*References*
1	Interior surfaces	Check to see that all interior surfaces and mechanical assemblies are free of dust, dirt, oil, grease, moisture, corrosion, rust, and paper lint. Clean, if required.	Paras 3-5 and 3-12.
2	Motor and governor	Inspect for signs of overheating (discoloration or smell of burned insulation) and excessive endplay when turned manually. Check motor speed. Check drive belt.	Fig. 5-1.
3	Internal wiring	Inspect all internal wiring, cables, and cords for broken, cracked, or defective insulation, deposits of oil, grease, dust, dirt, or paper lint. Clean if required.	Paras 3-5 and 3-12.
4	Plugs and receptacles	Inspect all internal plugs and receptacles for breakage, firm seating, loose screws or nuts, corrosion, and grease or oil deposits. Clean if required.	Paras 3-5 and 3-12.

3-11. Monthly Preventive Maintenance Checks and Services Chart

Sequence No.	*Item to be inspected*	*Procedure*	*References*
1	Completeness	See that the equipment is complete	App. B.
2	Installation	See that the equipment is properly installed	Para 2-3.
3	Cleanliness	See that the equipment is clean	Para 3-12.
4	Preservation	Check all surfaces for evidence of fungus. Remove rust and corrosion, and spot-paint bare spots.	Para 3-12.
5	Publications	Check to see that all publications are complete, serviceable, and current.	DA Pam 310-4.
6	Modifications	Check DA Pam 310-7 to determine whether new applicable MWO's have been published. All URGENT MWO's must be applied immediately. All NORMAL MWO's must be scheduled.	TM 38-750 and DA Pam 310-7.
7	Lubrication	Check lubrication of the equipment	Paras 3-15, 3-16, and 3-17.

Sequence No.	Item to be inspected	Procedure	References
8	Fuses	Check to see that the operating fuse is of the correct value. Check spare fuses for proper value and quantity.	Fig. 2-2 and app. B.
9	Subassembly mountings	Check to see that all mounting bolts, nuts, and washers are correctly positioned and properly tightened. Check for cracked, bent, or broken brackets.	
10	Connections	Check to see that— *a.* Plugs and receptacles are clean, intact, and not loose fitting. *b.* All interunit cables are properly routed and connected	Para 2-3.
11	Operation	Check the operation beginning with sequence No. 4 of the chart in paragraph 3-4.	Fig. 2-2.
12	RECORD VOLUME control.	While recording on a test disk, observe that the indicator glows moderately when speaking normally.	Para 3-18.

3-12. Organizational Cleaning and Touch-up Procedures

When cleaning the AN/TNH-16, perform the following procedures:

a. Use No. 0000 abrasive paper to remove corrosion.

b. Use a clean, dry cloth or a dry brush to remove loose dirt.

Warning: **Prolonged breathing of cleaning compound (*c* and *d* below) is dangerous. Provide adequate ventilation. Cleaning compound is flammable; do not use it near a flame.**

c. Use a cloth slightly moistened with cleaning compound to remove hard-to-remove dirt and oil or grease deposits; wipe the cleaning compound from the equipment with a clean, dry cloth.

d. Use a flushing action to clean electrical contacts. Dip an orangestick in cleaning compound and allow the liquid to drip from the stick through the contacts to a piece of cloth below. Remove the cleaning compound carefully with a clean, dry cloth.

e. If available, use vacuum cleaning equipment to remove loose dust, lint, and dirt.

f. Touch up the damaged surfaces with paint. For detailed instructions, refer to TB SIG 364.

3-13. Organizational Maintenance Troubleshooting Chart

a. General. The organizational maintenance troubleshooting chart is based on the operational checks listed in the monthly preventive maintenance checks and services chart (para 3-11). To troubleshoot the equipment, proceed until an abnormal condition or result is observed. When an abnormal condition or result is observed, perform the indicated checks and corrective measures. If the indicated corrective measures do not correct the trouble, higher category of maintenance is required.

b. Troubleshooting Chart.

Item No.	Trouble Symptom	Probable cause	Checks and corrective measures
1	Pilot lamp does not glow white	*a.* Power cord plug not properly inserted into receptacle.	*a.* Insert plug into receptacle (para 2-3).
		b. Blown fuse	*b.* Replace fuse (para 3-14*a*).
2	Pilot lamp does not glow red or green.	*a.* Pilot lamp defective	*a.* Replace lamp (para 3-14*b*).
		b. Loose or broken connections	*b.* Higher category of maintenance required.
3	Disk does not rotate	*a.* Loose or broken connections	*a.* Higher category of maintenance required.
		b. Defective start-stop switch in stenomask or in footswitch.	*b.* Higher category of maintenance required.

Item No.	Trouble Symptom	Probable cause	Checks and corrective measures
4	*a.* With the RECORD-LISTEN lever in center or LISTEN position, the scanning knob binds when rotated.	*a.* Dirt in carriage assembly gears	*a.* Remove dirt.
	b. With RECORD-LISTEN lever in RECORD position, the carriage moves when the scanning knob is rotated.	*b.* Improper adjustment of carriage assembly, brake band, and half nut gear.	*b.* Higher category of maintenance required.
		c. Improper adjustment of main control shaft and pulleys.	*c.* Higher category of maintenance required.
5	No sound from speaker.	*a.* Speaker switch in the OFF position.	*a.* Place switch in the ON position.
		b. Loose or broken connection	*b.* Higher category of maintenance required.
6	Volume level indicator lamp does not glow when recording.	*a.* Loose or broken connections	*a.* Check external wiring for broken or loose connections.
		b. Defective lamp	*b.* Replace lamp (para 3–14*b*).
		c. Weak or defective electron tube	*c.* Replace tube.
		d. Defective microphone cartridge in stenomask.	*d.* Higher category of maintenance required.
7	Disk does not backspace	*a.* Loose or broken connection	*a.* Check external cables for loose or broken connections.
		b. Defective backspace switch in foot control.	*b.* Higher category of maintenance required.
8	Weak or no sound from headset.	*a.* Defective headset	*a.* Replace headset.
		b. Defective amplifier tube	*b.* Replace tube.
9	Weak or no sound from stenomask.	*a.* Defective microphone cartridge in stenomask.	*a.* Higher category of maintenance required.
		b. Defective amplifier tube	*b.* Replace tube.
10	Sound distorted	*a.* Defective amplifier	*a.* Higher category of maintenance required.
		b. Improper groove formation due to enlarged center hole of disk.	*b.* Replace disk.
		c. Improper groove formation other than *b* above.	*c.* Higher category of maintenance required.
		d. RECORD VOLUME control not adjusted properly.	*d.* Readjust RECORD VOLUME control (para 3–18).

3–14. Organizational Parts Replacement

Parts replacement at organizational category is limited to the replacement of the running spare parts furnished with the AN/TNH–16.

a. Fuse and Fuse Cap Replacement.

(1) Set the on-off-volume control to off (fig. 2–2).

Replace the running spares as described below:

(2) Place the recorder-reproducer on its left side.

(3) Grasp the fuse holder (fig. 2–2) and twist it to the left while applying a slight downward pressure.

Caution: **Never replace a fuse with one of a higher rating. If a fuse burns out immediately after replacement, a fault is present in the equipment. If performance of the organizational troubleshooting procedures (para 3–13) does not result in location and correction of trouble, higher category of maintenance is required.**

(4) Remove the fuse and replace with another of the same value.

b. Pilot Lamp Replacement.

(1) Set the on-off-volume control to the off position.

(2) Remove the power cord plug from the receptacle.

(3) Remove the top cover (para 5–3).

(4) Remove the plastic tubing that covers the pilot lamp.

(5) Replace the pilot lamp.

(6) Replace the plastic tubing.

(7) Replace the top cover.

Section III. LUBRICATION AND ADJUSTMENT

3–15. Recommended Lubricants

The following lubricants are recommended for use with the AN/TNH–16:

a. Oil (FED VV–L–800).

b. Grease (GL).

3–16. Preparation for Lubrication

To lubricate the recorder-reproducer, take it out of service. Partially disassemble it as outlined in paragraph 5–3.

3–17. Methods of Applying Lubricants

***Caution:* After lubrication, always wipe away all excess lubricant. The presence of excess lubricant is a common cause of damage to wire insulation and other nonmetallic parts.**

a. *Grease.* Apply grease sparingly to the points indicated in *c* below. Use a toothpick or similar object to apply the grease. Wipe off any excess grease.

b. *Oil.* Use a piece of wire approximately 0.030-inch diameter to apply oil to those points indicated in *d* below. Dip the wire approximately ½ inch into the oil to collect a small amount on the end of the wire; then touch the wire to the lubrication point. This method permits closer control over the amount of oil applied to these points and prevents overlubrication.

c. *Greasing Chart.*

Item	*Quantity*	*Time Interval*			*Reference*
		4 months	*8 months*	*12 months*	
Disconnect shaft extension	Apply sparingly		X		Fig. 3–3
Spindle shaft ball bearing	Apply sparingly		X		Fig. 3–3
Carriage feed screw ball bearings	Apply sparingly		X		Fig. 3–3
Cam positioning spring rods	Apply sparingly			X	Fig. 3–1
Upper frame	Apply sparingly			X	Fig. 3–1
Disconnect fork assembly pivots	Apply sparingly			X	Fig. 3–2
Pressure roller frame, right and left-hand pivot screws.	Apply sparingly			X	Fig. 3–1
Main control cam	Apply sparingly			X	Fig. 3–1
RECORD-LISTEN lever pivot				X	Fig. 3–1
Recorder head assembly pivot screws	Apply sparingly			X	Fig. 3–1

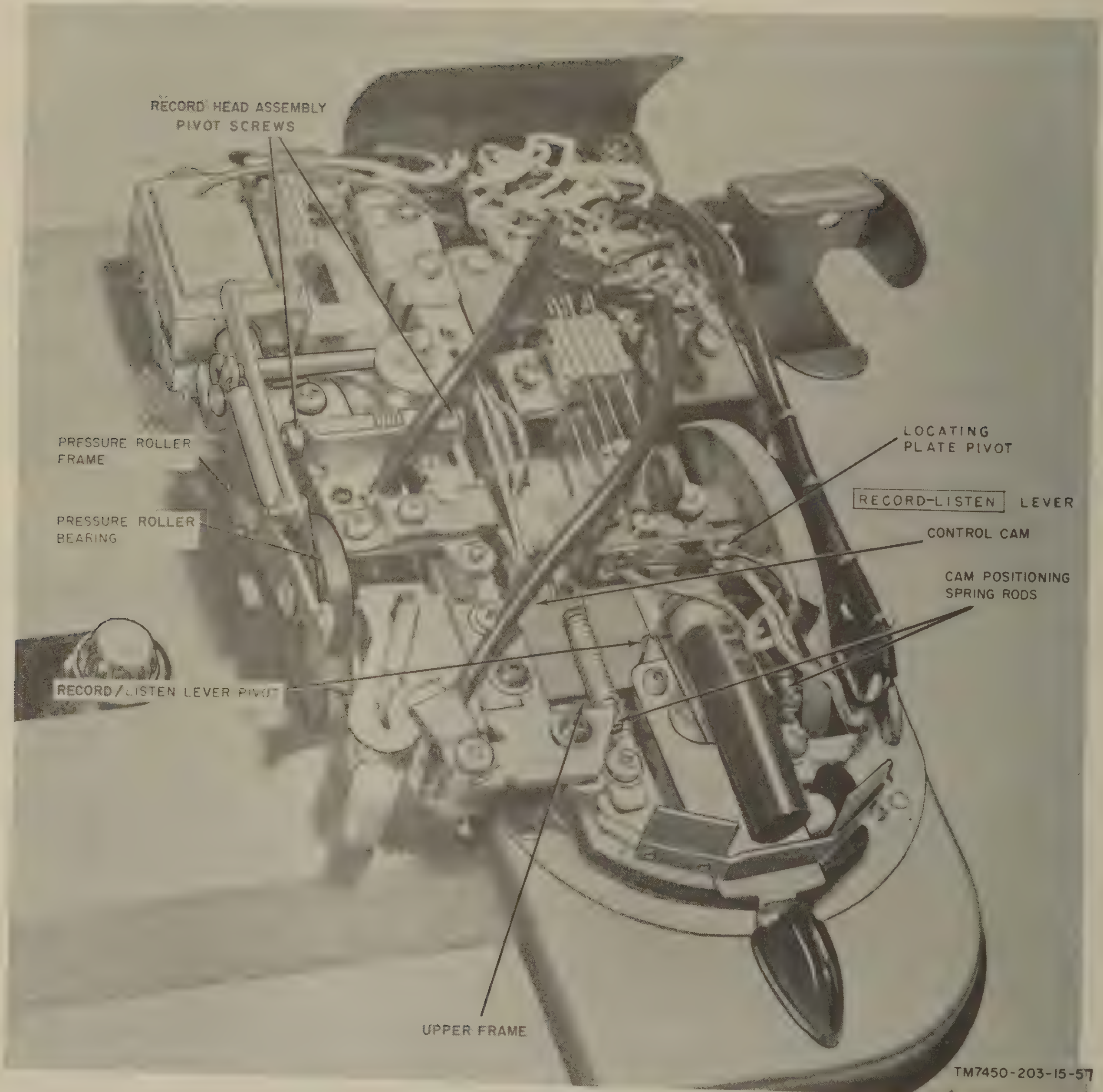


Figure 3-1. Main frame top view, lubrication points.

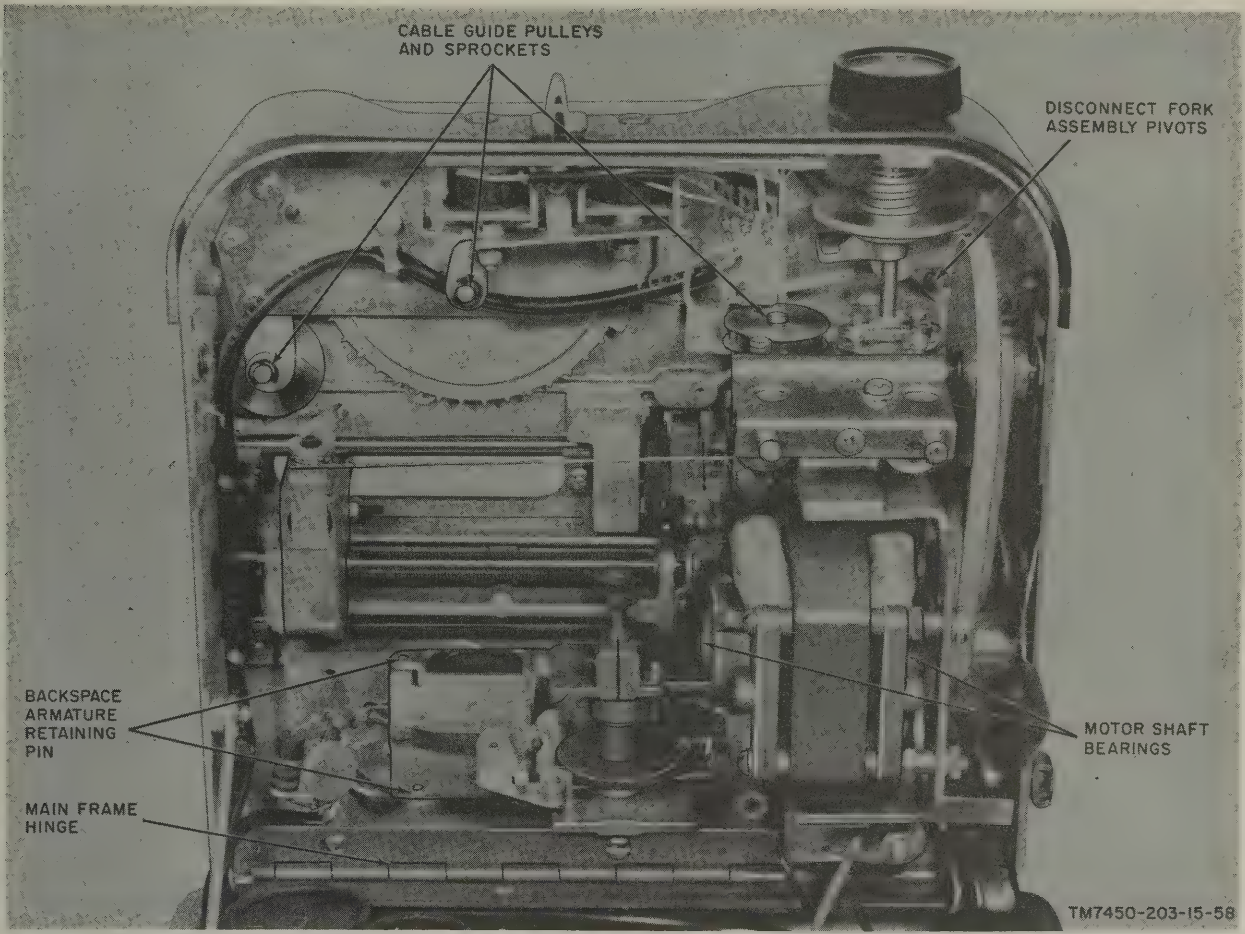

CABLE GUIDE PULLEYS AND SPROCKETS
DISCONNECT FORK ASSEMBLY PIVOTS
BACKSPACE ARMATURE RETAINING PIN
MOTOR SHAFT BEARINGS
MAIN FRAME HINGE
TM7450-203-15-58

Figure 3–2. Main frame bottom view, lubrication points.

d. Oiling Chart.

Item	*Quantity*	*Time Interval* *4 months*	 *8 months*	 *12 months*	*Reference*
Carriage spindle	1 drop	X			Fig. 3–3
Motor shaft bearings	1 drop	X			Fig. 3–2
Drive shaft bearings	1 drop	X			Fig. 3–3
Driving disk bearing	1 drop	X			Fig. 3–3
Pressure roller bearing	1 drop	X			Fig. 3–1
End of record signal hammer pivot	1 drop	X			Fig. 3–3
Compensator roller shaft and rocker arm pivots	1 drop	X			Fig. 3–3
Cable guide pulleys and sprockets	1 drop	X			Fig. 3–2
Intermediate pulley bearing and shaft	1 drop		X		Fig. 3–3
Carriage control shaft bearing	1 drop		X		Fig. 3–3
Carriage control shaft extension bearing	1 drop		X		Fig. 3–3
Pawl pivot	1 drop		X		Fig. 3–3
Main frame brace pivot	1 drop		X		Fig. 3–3
Backspace armature retaining pin	1 drop		X		Fig. 3–2
Main frame hinge	1 drop		X		Fig. 3–2

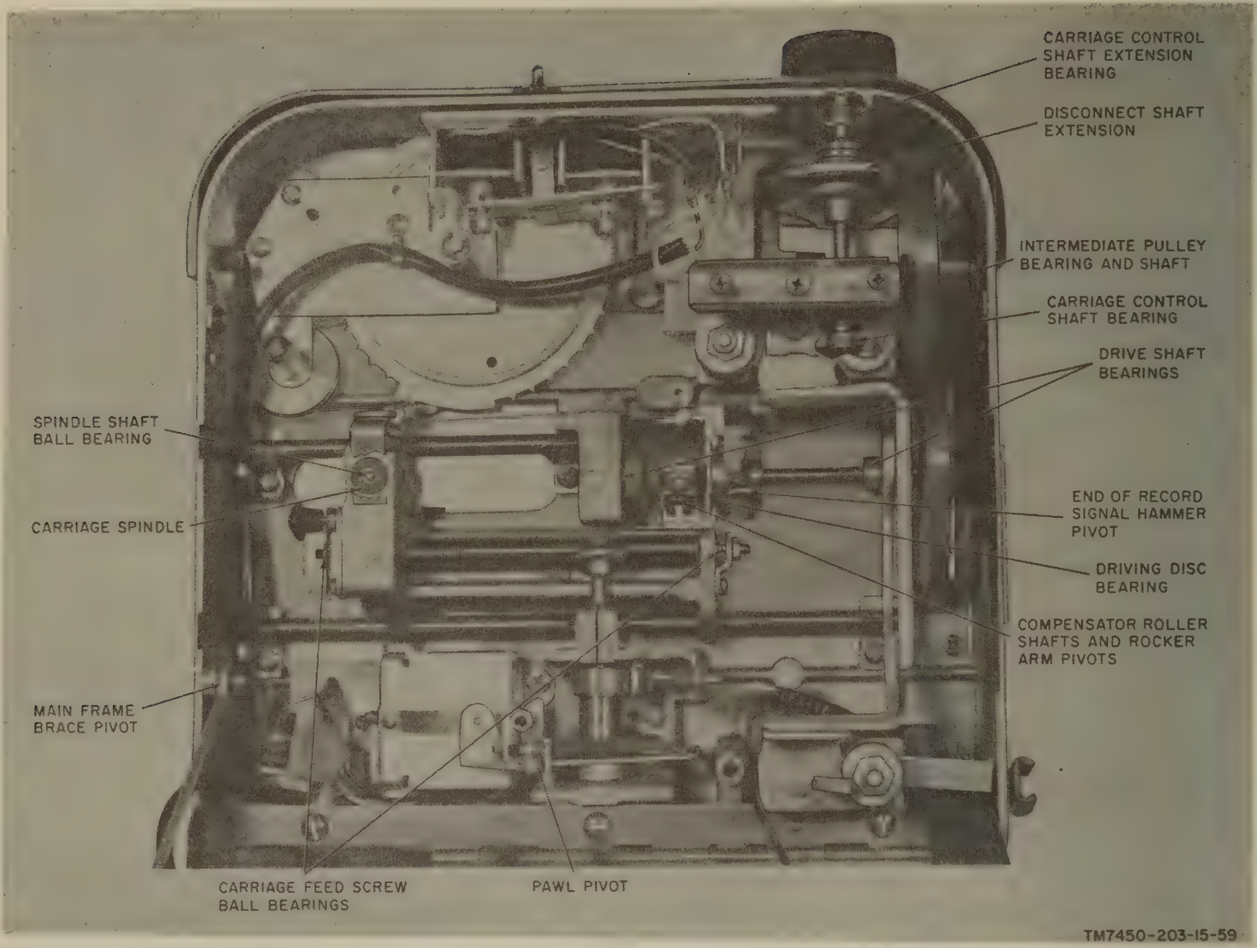

CARRIAGE CONTROL SHAFT EXTENSION BEARING
DISCONNECT SHAFT EXTENSION
INTERMEDIATE PULLEY BEARING AND SHAFT
CARRIAGE CONTROL SHAFT BEARING
DRIVE SHAFT BEARINGS
SPINDLE SHAFT BALL BEARING
CARRIAGE SPINDLE
END OF RECORD SIGNAL HAMMER PIVOT
DRIVING DISC BEARING
COMPENSATOR ROLLER SHAFTS AND ROCKER ARM PIVOTS
MAIN FRAME BRACE PIVOT
CARRIAGE FEED SCREW BALL BEARINGS
PAWL PIVOT
TM7450-203-15-59

Figure 3-3. Main frame bottom view, motor removed, lubrication points.

3-18. Adjustment of RECORD VOLUME Control

(fig. 3-2)

A screwdriver is required for this adjustment. While recording, adjust the RECORD VOLUME control so that the volume level indicator glows moderately when speaking into the microphone at normal volume. Turning the RECORD VOLUME control clockwise will increase the record volume level.

CHAPTER 4

DIRECT SUPPORT MAINTENANCE

Section I. GENERAL

4–1. Scope of Direct Support Maintenance

a. The direct support maintenance procedures are not complete in themselves but supplement the procedures performed at the organizational category and include any additional techniques required to perform maintenance on the AN/TNH–16. Troubleshooting at direct support maintenance is normally performed while the defective unit is operating as part of the AN/TNH–16.

b. Direct support maintenance of the AN/TNH–16 is limited to the following:

(1) Testing continuity, input voltage, and tubes.

(2) All final testing and repairs of the foot control (fig. 1–4) and stenomask (fig. 1–2).

4–2. Direct Support Tools and Equipment

a. Tool Kit, Radio Repair TK–115/G.
b. Test Set, Electron Tube TV–7/U.
c. Multimeter TS–352B/U.

Section II. DIRECT SUPPORT TROUBLESHOOTING

4–3. General Instructions

a. Direct support testing procedures used by direct support maintenance personnel are designed to provide test indications that constitute a direct basis for acceptance or rejection of the AN/TNH–16 on a go, no-go basis.

b. The troubleshooting chart is provided to allow maintenance personnel to isolate general defects. To verify the general defect, refer to voltage and resistance charts.

Warning: **Before performing continuity or resistance checks, be sure to disconnect all power. Failure to do so may cause electrical shock to personnel or may cause damage to the TS–352B/U.**

4–4. Troubleshooting Chart

Item No.	*Trouble Symptom*	*Probable cause*	*Checks and corrective measures*
1	Disk does not rotate when start-stop button on stenomask is released. Replacing stenomask corrects discrepancy.	*a.* Loose or broken connections in stenomask or connecting cable.	*a.* Check for loose or broken connections. Repair or replace cable as necessary (paras 4–6 and 4–9).
		b. Defective start-stop switch ----	*b.* Replace start-stop switch (para 4–9).
2	No modulation contained in recorded grooves. Replacing stenomask corrects discrepancy.	*a.* Loose or broken connection in connecting cable.	*a.* Check for loose or broken connections. Repair or replace cable as necessary (paras 4–6 and 4–9).
		b. Defective microphone element --	*b.* Replace microphone element (para 4–9).

Item No.	*Trouble Symptom*	*Probable cause*	*Checks and corrective measures*
3	Disk does not rotate when foot control start-stop switch is depressed. Replacing foot control corrects discrepancy.	*a.* Broken or loose connection in foot control or connecting cable.	*a.* Check for loose or broken connections. Repair or replace cable as necessary (paras 4-5 and 4-8).
		b. Defective start-stop switch ----	*b.* Replace start-stop switch (para 4-8).
4	Disk does not backspace when backspace switch is ,depressed.	*a.* Broken or loose connection in foot control or connecting cable.	*a.* Check for broken or loose connections. Repair or replace cable (paras 4-5 and 4-8).
		b. Defective backspace switch ----	*b.* Replace backspace switch (para 4-8).

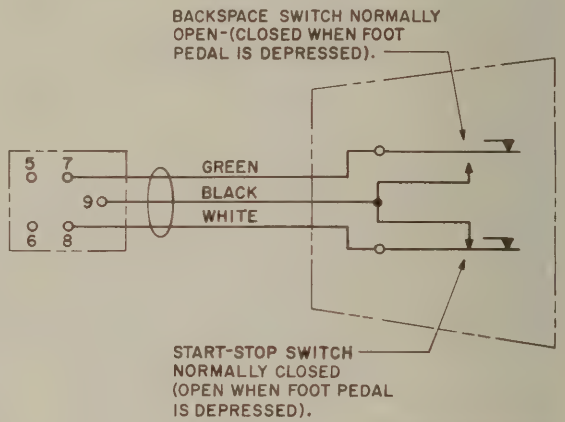
4-5. Foot Control

a. Check continuity between pins 8 and 9 of foot control receptacle (fig. 4-1). Depress lever (fig. 4-2). The TS-352B/U should indicate 100M ohms or more (infinity).

b. Check for an infinite reading between pins 7 and 9. Depress the foot control cover (fig. 4-2). The TS-352B/U should indicate 1 ohm or less.

c. If the TS-352B/U readings called for in *a* and *b* above cannot be attained, refer to paragraph 4-8*a*(1) and check for continuity between microswitch contacts (fig. 4-2).

d. Replace the defective microswitch or connecting cable (fig. 4-2).



BACKSPACE SWITCH NORMALLY OPEN-(CLOSED WHEN FOOT PEDAL IS DEPRESSED).

START-STOP SWITCH NORMALLY CLOSED (OPEN WHEN FOOT PEDAL IS DEPRESSED).

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Figure 4-1. Foot control, schematic diagram.

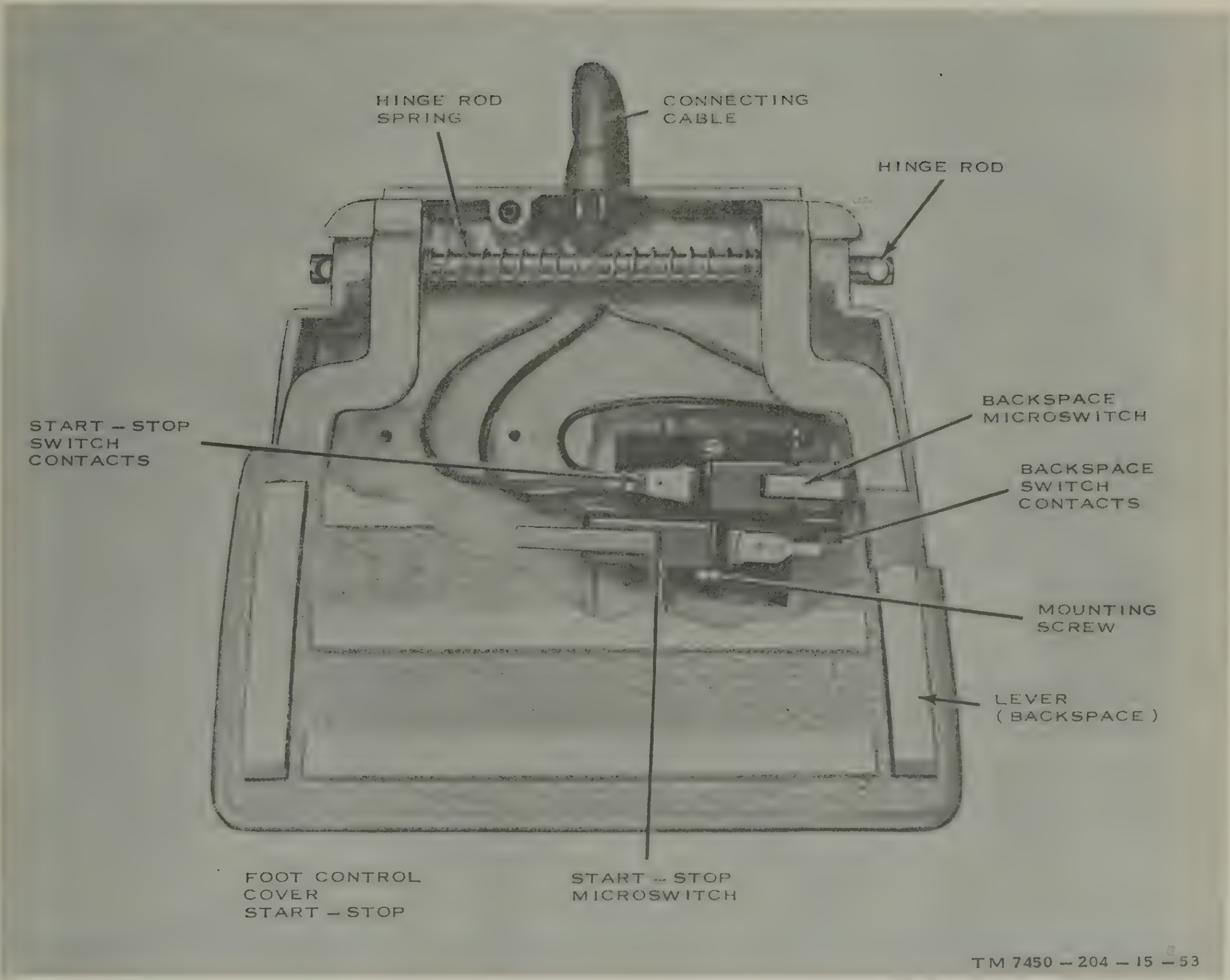

Figure 4–2. Foot control, cover removed.

4–6. Stenomask

a. Close contacts of start-stop switch by depressing start–stop switch cover (fig. 1–2).

b. Check for continuity between pins 8 and 9 of stenomask connector (fig. 1–2). If there is no continuity between pins 8 and 9, refer to paragraph 4–9 and check continuity between S1 contacts (fig. 4–3).

c. Replace S1 or stenomask cable.

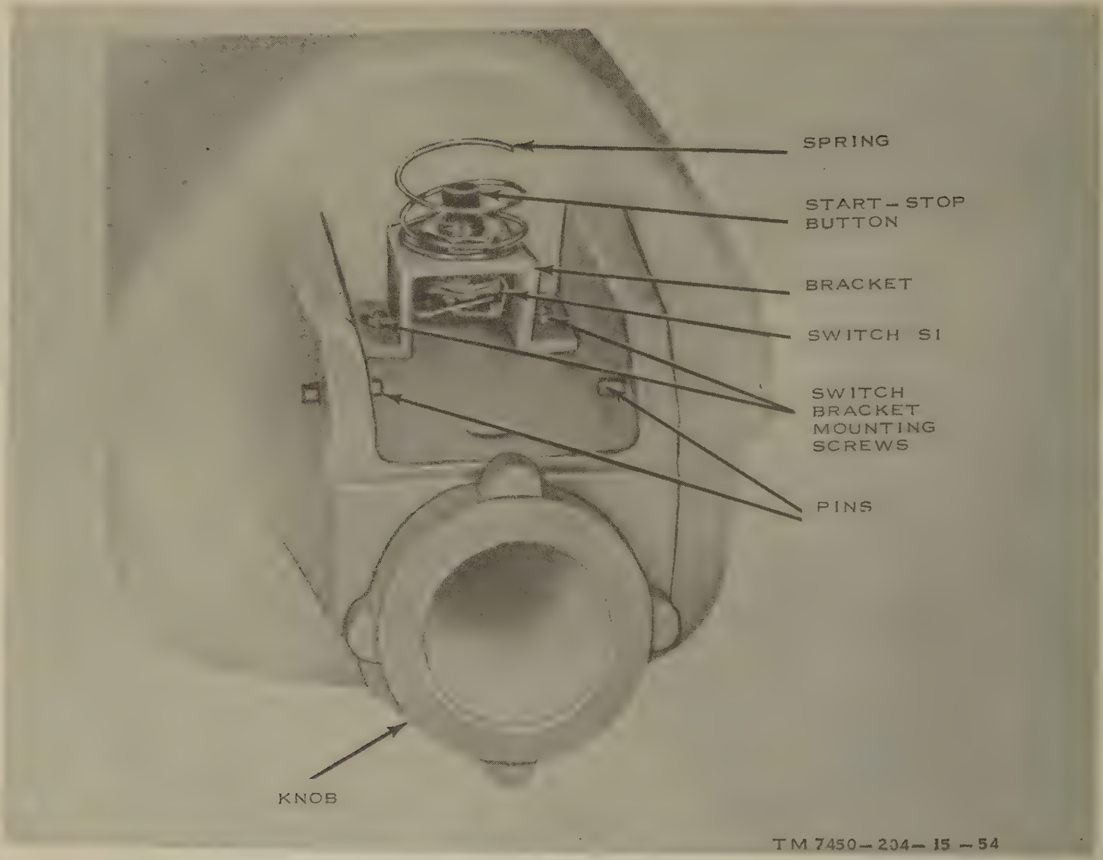

Figure 4-3. Stenomask, start-stop button removed.

d. If, after performing the procedures in *a* through *c* above, the stenomask is still inoperative, replace the microphone (fig. 4-5) with a known good microphone. To gain access to the microphone, turn knob (fig. 4-3) counterclockwise until the frame (fig. 4-4) breaks free of the barrel. Remove the facepiece (fig. 4-5) and two microphone mounting screws and unsolder the microphone lead at the wire junction (fig. 4-4).

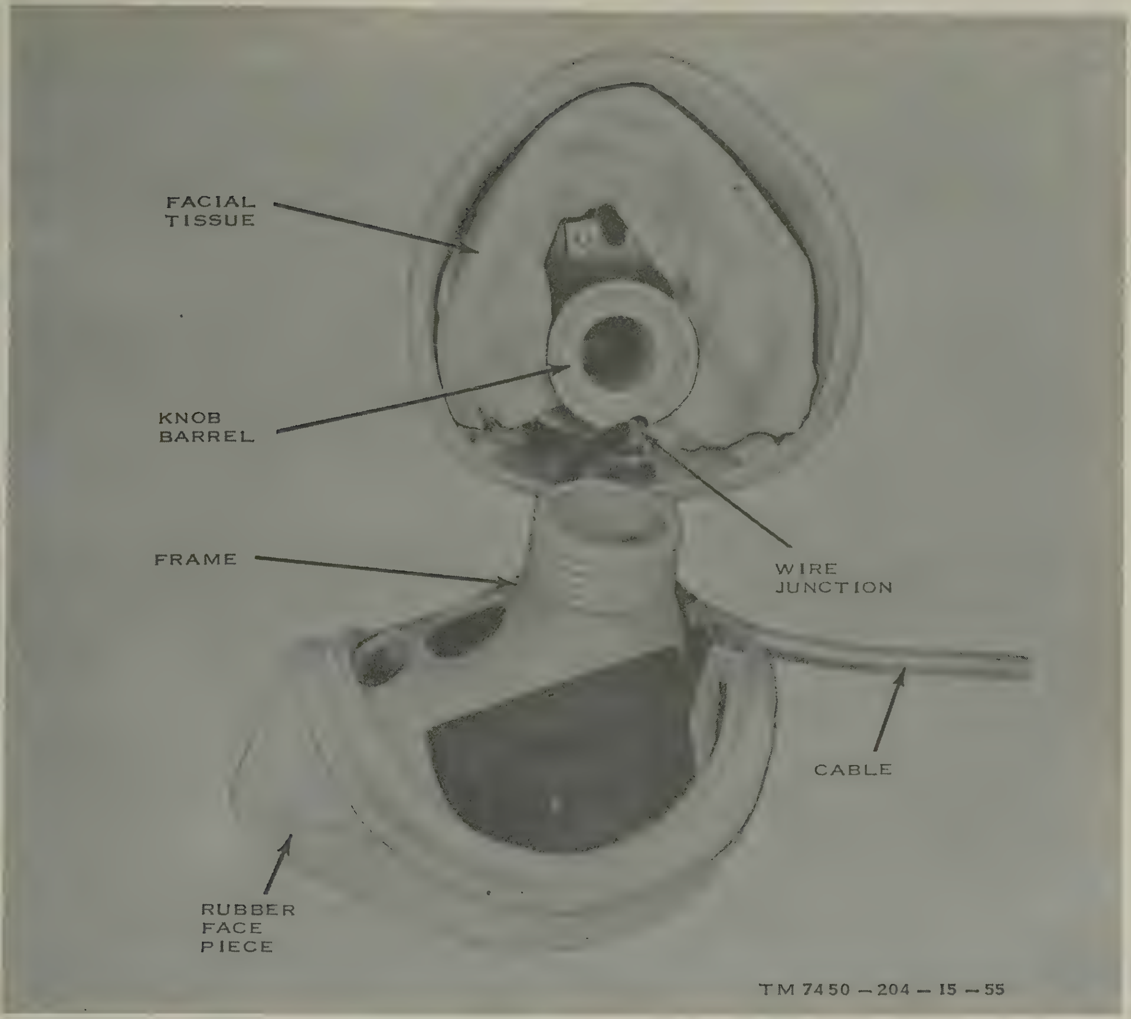

Figure 4–4. Stenomask, frame disassembly.

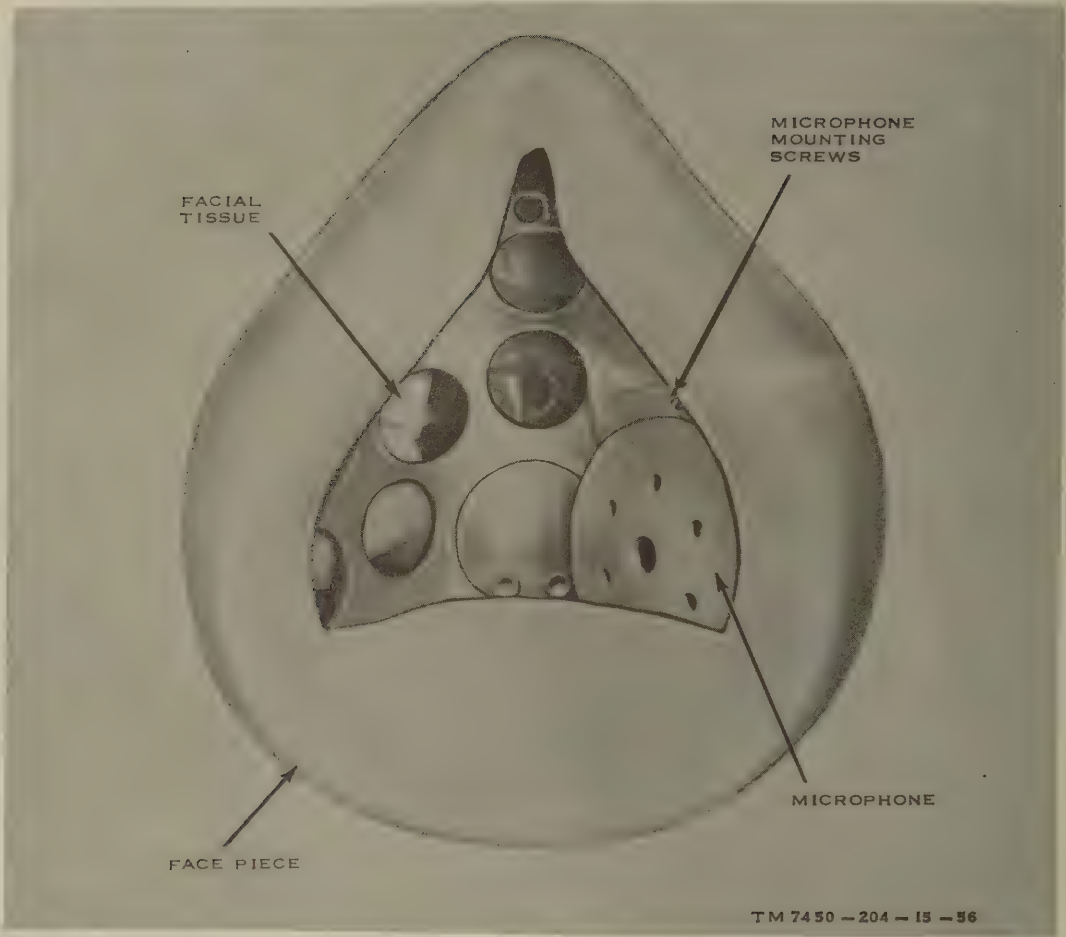

Figure 4-5. Microphone, installation.

Section III. REMOVAL, REPLACEMENT, AND ADJUSTMENT

4-7. General

a. Disassemble only to the extent necessary to inspect, clean, and replace a defective part or mechanism.

b. Inspect all removed parts for evidence of excessive wear or damage. Replace defective parts.

Caution: **When securing parts in place, be careful not to tighten mounting screws or nuts excessively. Failure to observe this caution frequently results in broken screws or stripped threads.**

4-8. Removal and Replacement of Foot Control Components

(fig. 4-2)

a. Removal.

(1) Gain access to the foot control components by removing the two pedal pivot screws (fig. 4-7).

(2) Remove the foot control cover.

(3) Remove the mounting screw that attaches the two microswitches to the foot control.

(4) Mark the microswitch leads to in-

sure proper electrical connection during reassembly.

(5) Disconnect the electrical leads from the two microswitches.

(6) Remove the mounting screw that secures the microswitches.

(7) Remove the microswitches.

(8) Remove the hinge rod, hinge rod spring, and the left and right levers.

b. Replacement. To replace the foot control components, reverse the removal procedure (*a* above).

4–9. Removal and Replacement of Stenomask Components

a. Removal.

(1) Gain access to stenomask components by applying finger pressure to the start–stop switch cover (fig. 1–2) and disengaging the cover from two pins (fig. 4–3). Turn knob (fig. 4–4) counterclockwise until rubber facepiece and frame break free of the barrel.

(2) Remove the two switch bracket mounting screws (fig. 4–3).

(3) Remove the start-stop button bracket, switch, start–stop switch, and spring.

(4) Remove facepiece and two microphone mounting screws (fig. 4–5).

(5) Remove microphone.

(6) Unsolder start–stop switch, microphone, and cable leads at wire junction (fig. 4–4).

(7) Remove cable, microphone, and switch.

b. Replacement. To replace stenomask components, reverse the removal procedure (*a* above).

4–10. Foot Control Adjustments

a. Requirements (fig. 4–6).

(1) The operating points of the switches must be adjusted to provide an additional $\frac{1}{32}$-inch travel of the pedal or lever to the *down* position after operating the switches. A faint click will be heard when the switch operates.

(2) The pedal and lever must be adjusted to provide an additional $\frac{1}{32}$-inch travel of the lever and $\frac{1}{16}$-inch travel of the pedal to the *position of rest* after the point at which the switches return to normal. A faint click will be heard when the pedal or lever is released.

b. Adjustments (fig. 4–7).

(1) Perform the procedures in paragraph 4–8*a*(1) and (2) to insure the proper position-

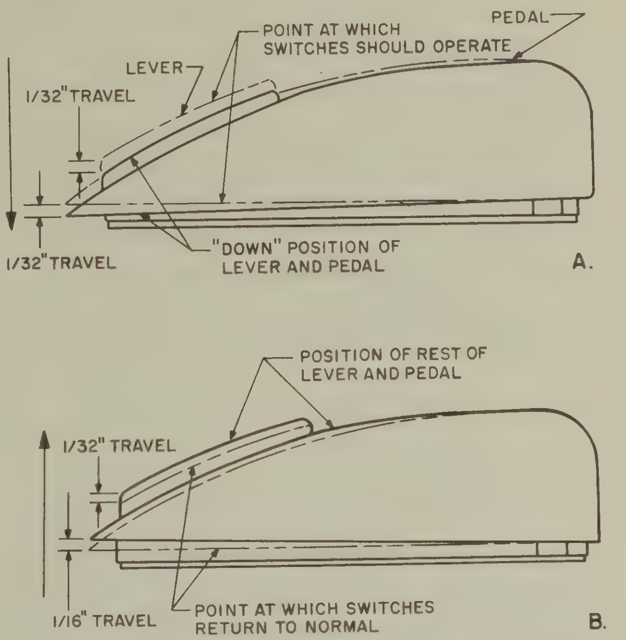
PEDAL
POINT AT WHICH SWITCHES SHOULD OPERATE
LEVER
1/32" TRAVEL
1/32" TRAVEL
"DOWN" POSITION OF LEVER AND PEDAL
A.
POSITION OF REST OF LEVER AND PEDAL
1/32" TRAVEL
1/16" TRAVEL
POINT AT WHICH SWITCHES RETURN TO NORMAL
B.

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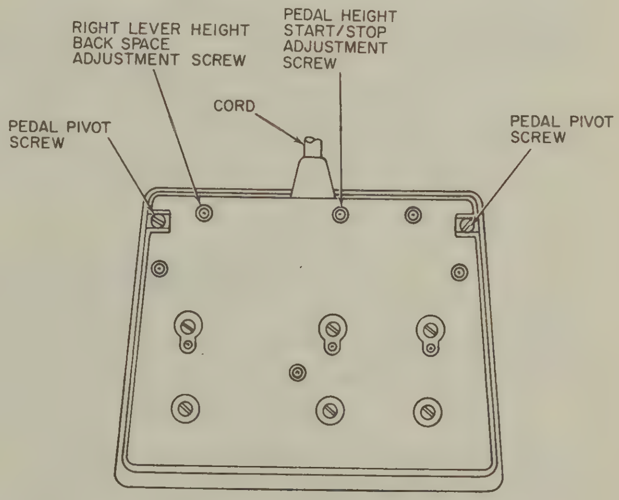
Figure 4-6. Foot control, adjustments.


RIGHT LEVER HEIGHT BACK SPACE ADJUSTMENT SCREW
PEDAL HEIGHT START/STOP ADJUSTMENT SCREW
CORD
PEDAL PIVOT SCREW
PEDAL PIVOT SCREW

TM7450-204-15-47

Figure 4-7. Foot control, bottom view.

ing of the start–stop and backspace microswitches. The start–stop microswitch is positioned properly when it touches the base of the foot control. The backspace microswitch is positioned properly when it engages the mounting bracket flange (switch will not touch the foot control base).

(2) Reverse the procedures in paragraph 4–8*a*(1) and (2).

(3) Adjust pedal adjusting screws clockwise to lower pedal, counterclockwise to raise pedal.

(4) Adjust lever adjusting screw clockwise to lower lever, counterclockwise to raise lever.

Note. The pedal and lever adjusting screws must be rocked in to meet the requirements of paragraph 4–10*a*.

CHAPTER 5

GENERAL SUPPORT MAINTENANCE

Section I. GENERAL

5-1. Scope of General Support Maintenance

Complete rebuild of the AN/TNH-16 and/or its individual components may be accomplished by general support maintenance facilities when authorized. Rebuild procedures of the AN/TNH-16 will include all repairs, rebuild, replacement, and testing operations necessary to make the equipment suitable for return to Department of the Army supply system stocks for reissue to using organizations as equipment equivalent to new material. Detailed procedures for accomplishing the repair and adjustments established in the preceding portions of this manual and such additional repair and rebuild operations as necessary, will be established by the maintenance facility performing the work.

5-2. Tools and Equipment Required for General Support Maintenance

a. Tools. General support maintenance of the AN/TNH-16 requires the use of the following tools:

(1) Tool Kit, Radio Repair TK-115/G.

(2) Burnishing contact, hand.

(3) Relay contact adjusting tool; P.K. Neuses, Inc., Type No. N-1632.

(4) Adjuster, spring, communications.

(5) Scale, dial indicating, push-pull.

(6) Tension gage tip assembly; Gray Mfg. Co., No. S-34597.

(7) ¼-inch hexagonal stubby nut driver drilled; Gray Mfg. Co., No. P-24319.

(8) No. 4 Allen extension key; Gray Mfg. Co., No. 95035.

(9) No. 6 Allen extension key; Gray Mfg. Co., No. 95037.

(10) Knob assembly; Gray Mfg. Co., No. S-34598.

(11) Hook, spring pull.

b. Equipment. General support maintenance of the AN/TNH-16 requires the use of the following equipment:

Tool	*Technical manual*
Multimeter TS-352B/U	TM 11-6625-366-15
Oscilloscope AN/USM-81	TM 11-6625-219-12
Oscillator, Audio TS-382(*)/U [a]	TM 11-6625-261-12
Attenuator, decade.	
Voltmeter, Meter ME-30A/U	TM 11-6625-320-12
Test Set, Electron Tube TV-7/U	TM 11-6625-274-12

[a] Indicates TS-382A/U, TS-382B/U, TS-382D/U, TS-382E/U, and TS-382F/U.

Section II. REMOVAL AND REPLACEMENT

5-3. Removal and Replacement Instructions for Upper and Main Frame Assemblies

(figs. 5-1 and 5-2)

a. To gain access to assemblies in the upper frame area, the top cover (fig. 2-2) must be removed. Loosen the top cover screw (fig. 5-1) until the front of the top cover is free. Lift the top cover slightly and move it toward the rear of the recorder-reproducer to free the rear bracket; then lift the cover.

b. The main frame is hinged to provide access to assemblies located on the main frame. Grasp the scanning knob and lift until the latch bar engages. To close the recorder-reproducer,

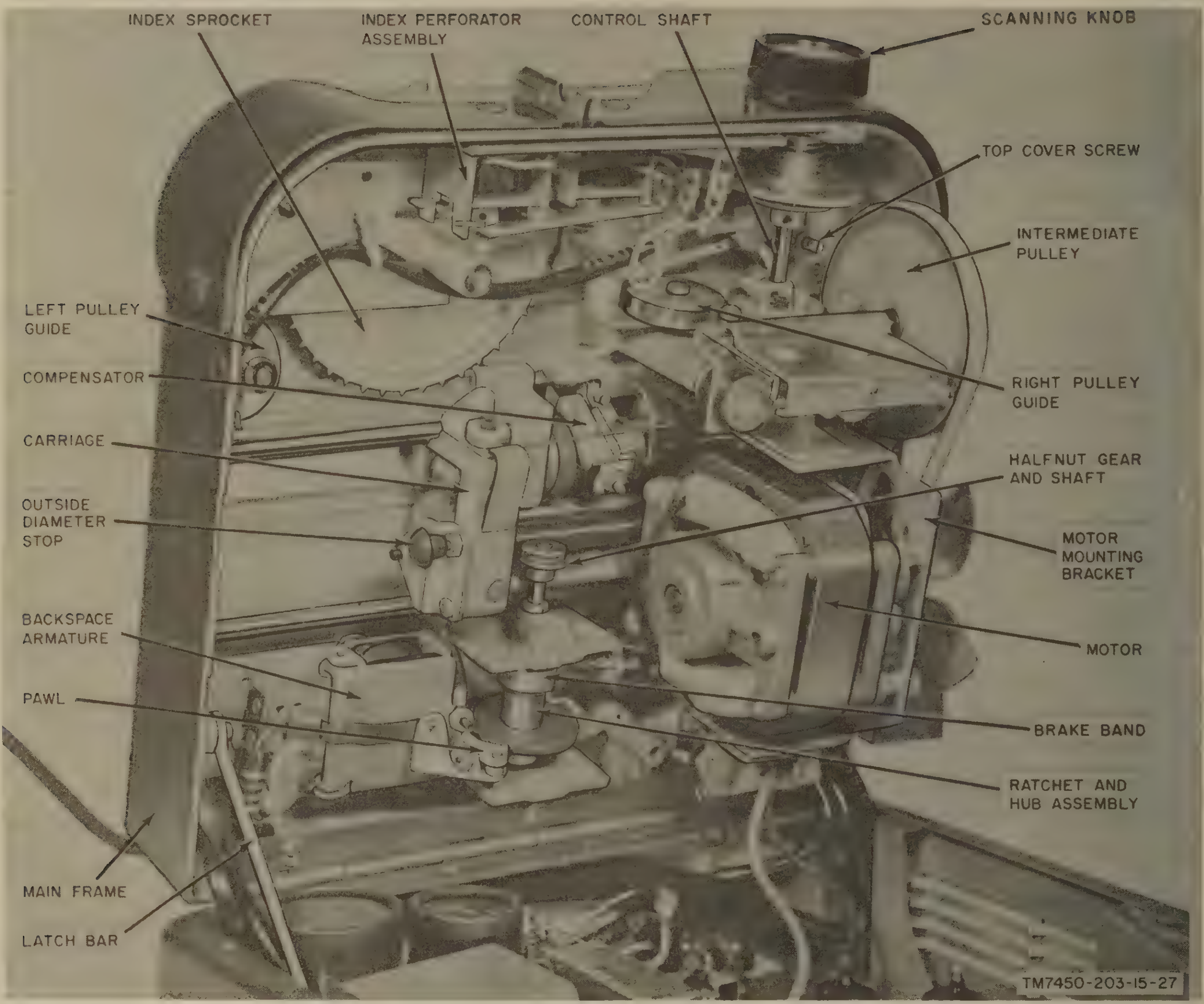


Figure 5–1. Main frame assemblies.

pull up on the latch bar while pushing the main frame slightly to the rear to disengage the latch bar.

5–4. Removal and Replacement of Recorder Head

(fig. 5–2)

The recorder head is mounted on the recorder head lift lever, which is part of the recorder head and reproducer head assembly (fig. 5–3).

a. Removal.

(1) Disconnect the recorder head and reproducer head leads from the terminal board (fig. 5–4).

(2) Remove the three mounting screws (fig. 5–2) that attach the recorder head and reproducer head assembly to the upper frame.

(3) Lift the assembly (fig. 5–3) clear of the upper frame by shifting it forward and tilting it to the right to clear the end of the record signal actuator (fig. 5–2).

(4) Remove the two recorder head mounting screws (figs. 5–2 and 5–3) and separate the recorder head (fig. 5–3) from the mounting bracket.

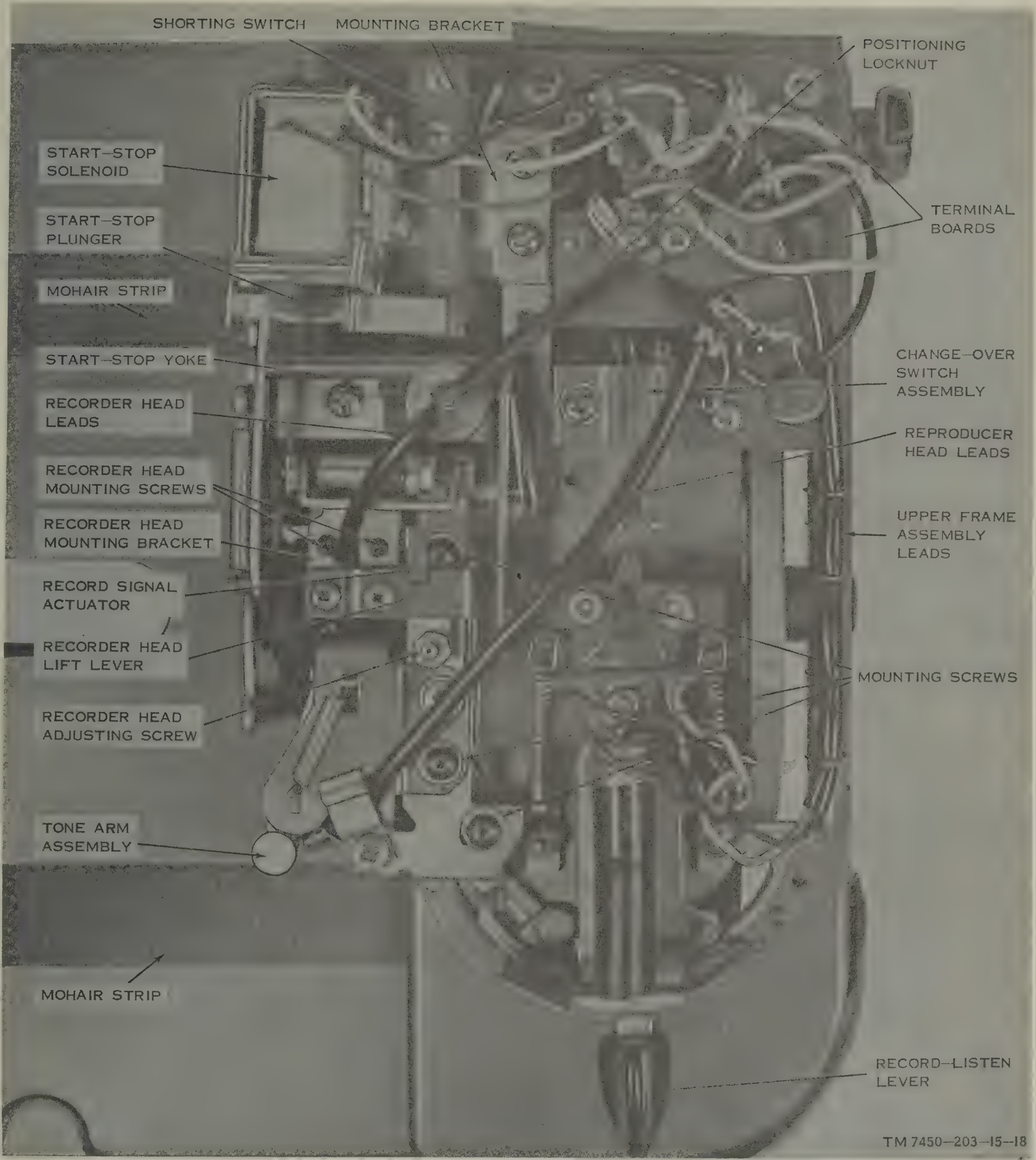


Figure 5-2. Upper frame assemblies.

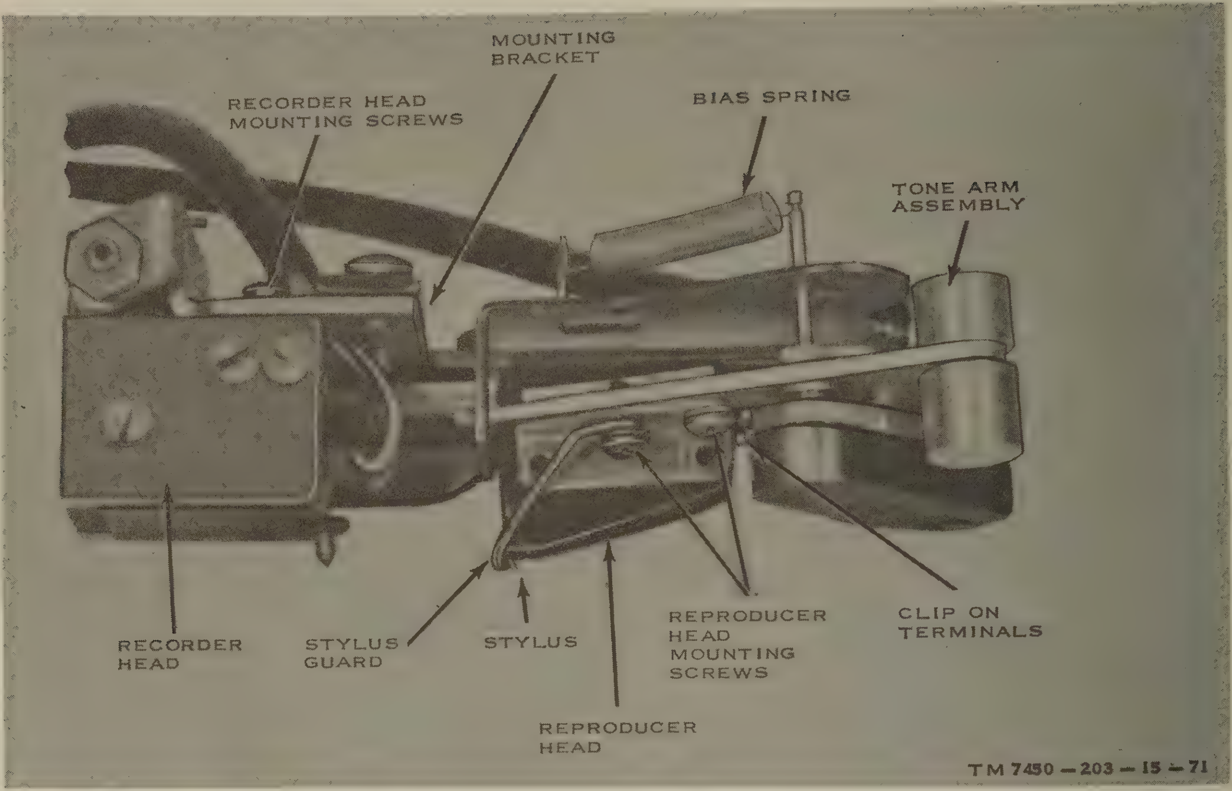


Figure 5-3. Recorder head and reproducer head.

b. Replacement. To replace the recorder head, reverse the removal procedure (*a* above).

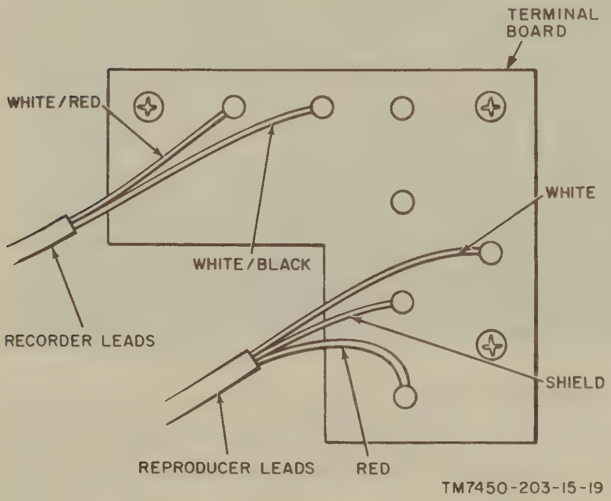


Figure 5-4. Recorder head and reproducer head terminations.

5-5. Removal and Replacement of Reproducer Head

(fig. 5-3)

The reproducer head is mounted on the tone arm assembly.

a. Removal.

(1) Perform the procedures in paragraph 5-4*a*(1), (2), and (3).

(2) Remove the push-on terminal from the reproducer head.

(3) Remove the two mounting screws that hold the reproducer head to the tone arm assembly.

Note. When installing the new reproduced head, position the stylus guard level with the top of the stylus cone point as shown in figure 5-5. Insure that the stylus guard does not touch the reproducer head. If necessary, use long-nosed pliers and bend the stylus guard to the correct position.

b. Replacement. To replace the reproducer head reverse the removal procedure (*a* above).

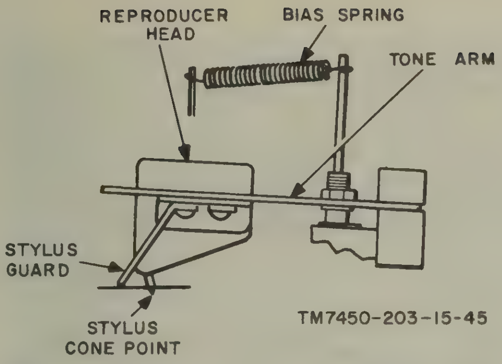


Figure 5-5. Reproducer and tone arm assembly.

5-6. Removal and Replacement of Reproducer Head Stylus

a. Removal.

(1) Repeat the instructions in paragraph 5-4*a*(2).

(2) Lift the recorder head and reproducer head assembly (fig. 5-3) and turn it on its side to gain access to the reproducer stylus (fig. 5-6).

(3) Place the thumbnail under the stylus tip and raise it clear of the bronze clip. Rotate the stylus at its base to the right or left.

(4) Pull the base of the stylus out of the neoprene socket.

b. Replacement.

(1) Insert the base of the replacement stylus into the neoprene socket, and rotate it back into position between the prongs of the bronze clip and press it into place.

Caution: **Apply pressure at the base of the stylus over the neoprene socket only. Never apply pressure at the stylus tip.**

(2) Replace the recorder head (para 5-4*b*).

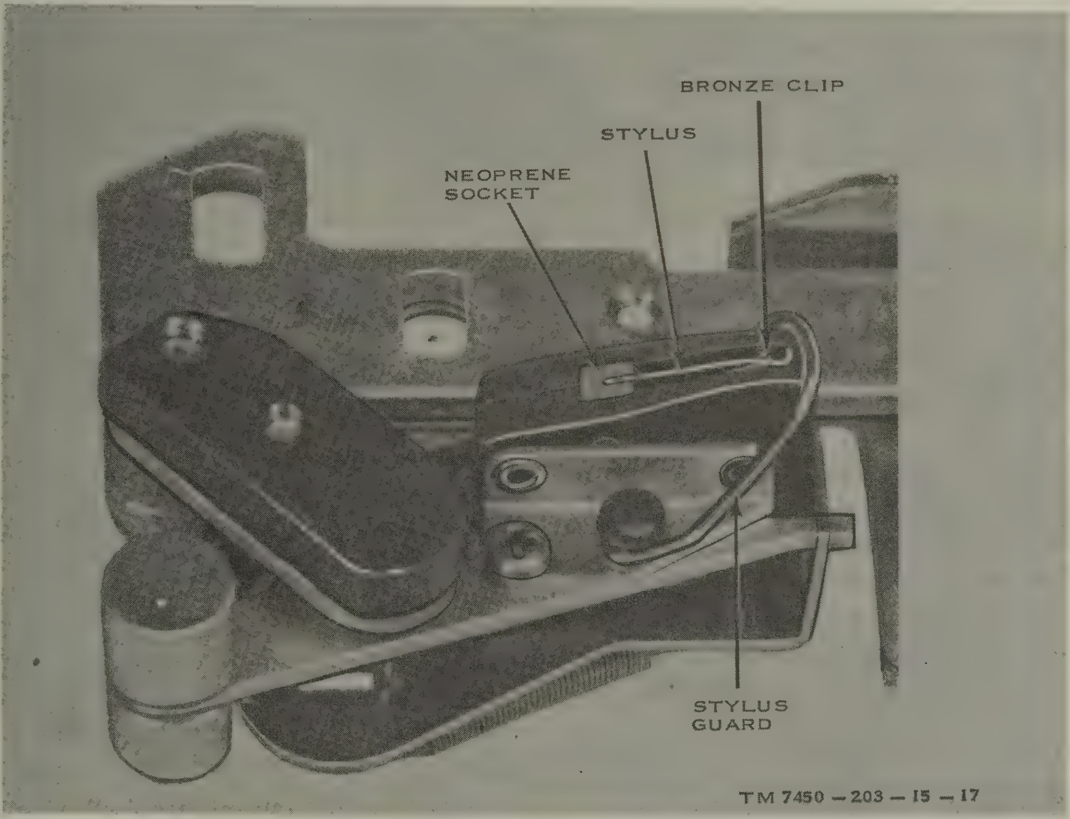


Figure 5-6. Replacement of reproducer head stylus.

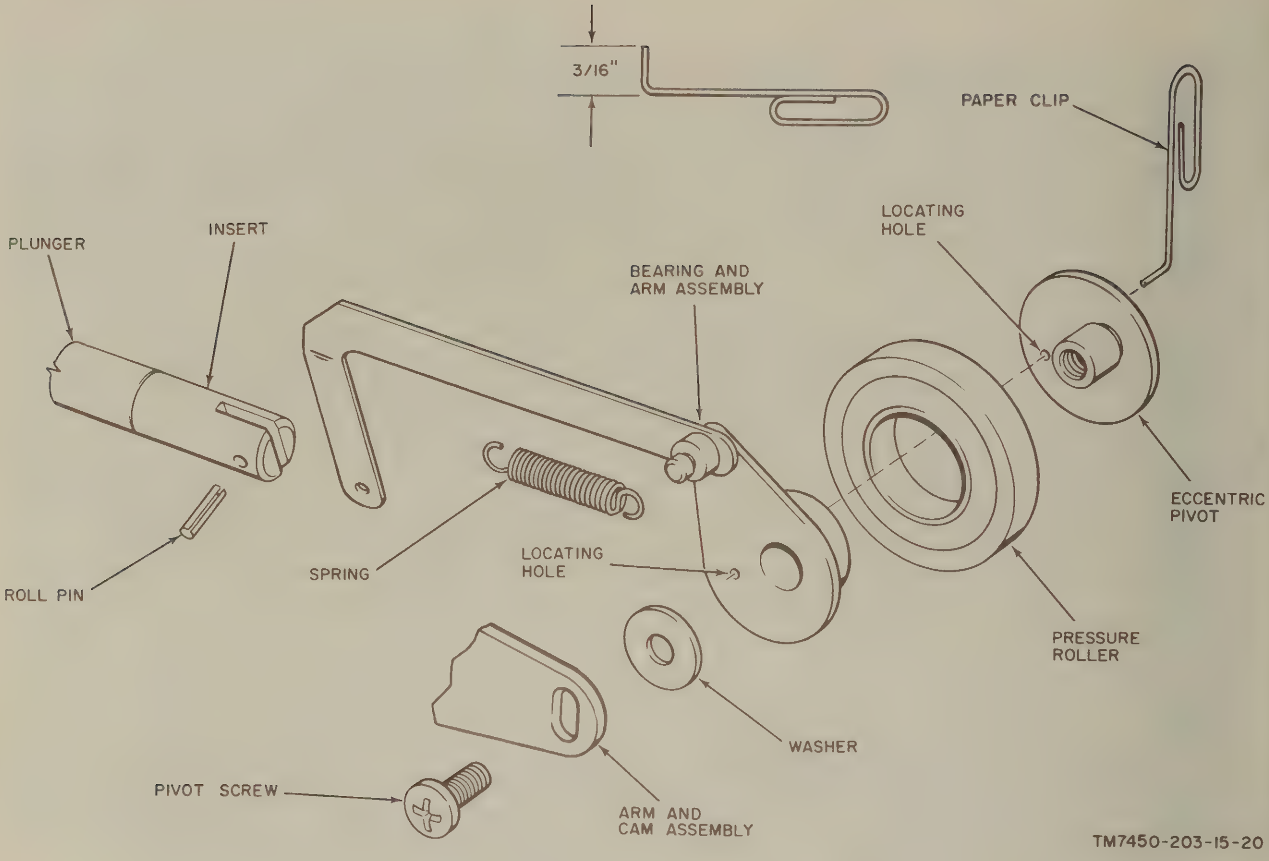


Figure 5–7. Pressure roller assembly.

5–7. Removal and Replacement of Pressure Roller Assembly

(figs. 5–7 and 5–8)

a. Removal.

(1) Remove the recorder head and reproducer head assembly (fig. 5–3) (para 5–4*a*(1), (2), and (3)).

(2) Remove the C-washer that attaches the end of the record signal actuator (fig. 5–8) to the upper frame assembly.

(3) Remove the record signal actuator.

(4) Remove the locknut (fig. 5–2).

(5) Remove the panhead screw that attaches the pressure roller assembly to the upper frame assembly (fig. 5–8).

(6) Ossen the two screws that attach the mounting bracket to the upper frame assembly.

(7) Remove the pressure roller assembly (fig. 5–8).

b. Replacement. To replace the pressure roller assembly, reverse the removal procedure (*a* above). Check to see that all parts move freely after each step is completed.

5–8. Removal and Replacement of Start–Stop Assembly

(fig. 5–9)

The start–stop assembly consists of the start–stop coil, spacer, mounting bracket, shorting switch actuator, and shorting switch.

a. Removal.

(1) Disconnect the start–stop coil and shorting switch leads from the terminal board.

(2) Remove the mounting screws that hold the start–stop assembly to the upper frame. Lift the assembly from the recorder-reproducer; allow the plunger to slide from the coil. Replace the parts on the assembly as required.

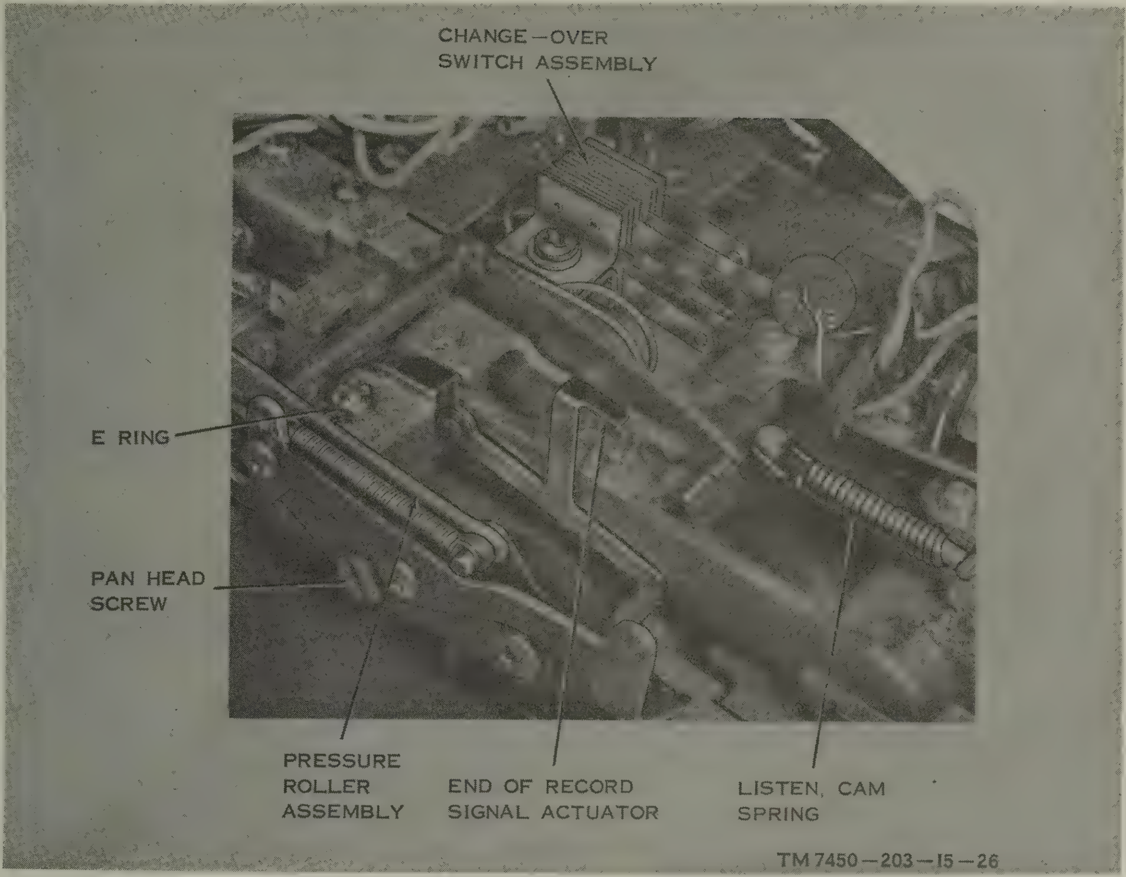


Figure 5-8. Removal of end of record signal actuator.

***Caution:* Be careful when working with the shorting switch. The switch leaf pressures are set by the manufacturer and must not be altered. When assembling the switch on the mounting bracket, tighten the nuts securely but do not overtighten them.**

b. Replacement. To replace the start-stop assembly, reverse the removal procedure (*a* above). Check to see that all parts move freely after each step is completed.

5-9. Removal and Replacement of Start-Stop Coil

(fig. 5-9)

a. Removal.

(1) Perform the procedures in paragraph 5-8*a*.

(2) Remove the two screws that attach the heat shield to the mounting bracket.

(3) Remove the spacer.

(4) Remove the start-stop coil.

b. Replacement. To replace the start-stop coil, reverse the removal procedure (*a* above). Check to see that all parts move freely after each step is completed.

Note. When the start-stop subassembly has been adjusted and installed in this way, no further adjustments of the subassembly should be necessary. Any changes needed should be made in the reproduced lift lever (fig. 5-9) and start-stop yoke as outlined in *a* above (fig. 5-2).

5-10. Removal and Replacement of Mohair Strips

(fig. 5-2)

a. Removal.

(1) To gain access to the right end of the rear strip, remove the start-stop assembly (fig, 5-9) (para 5-8*a*).

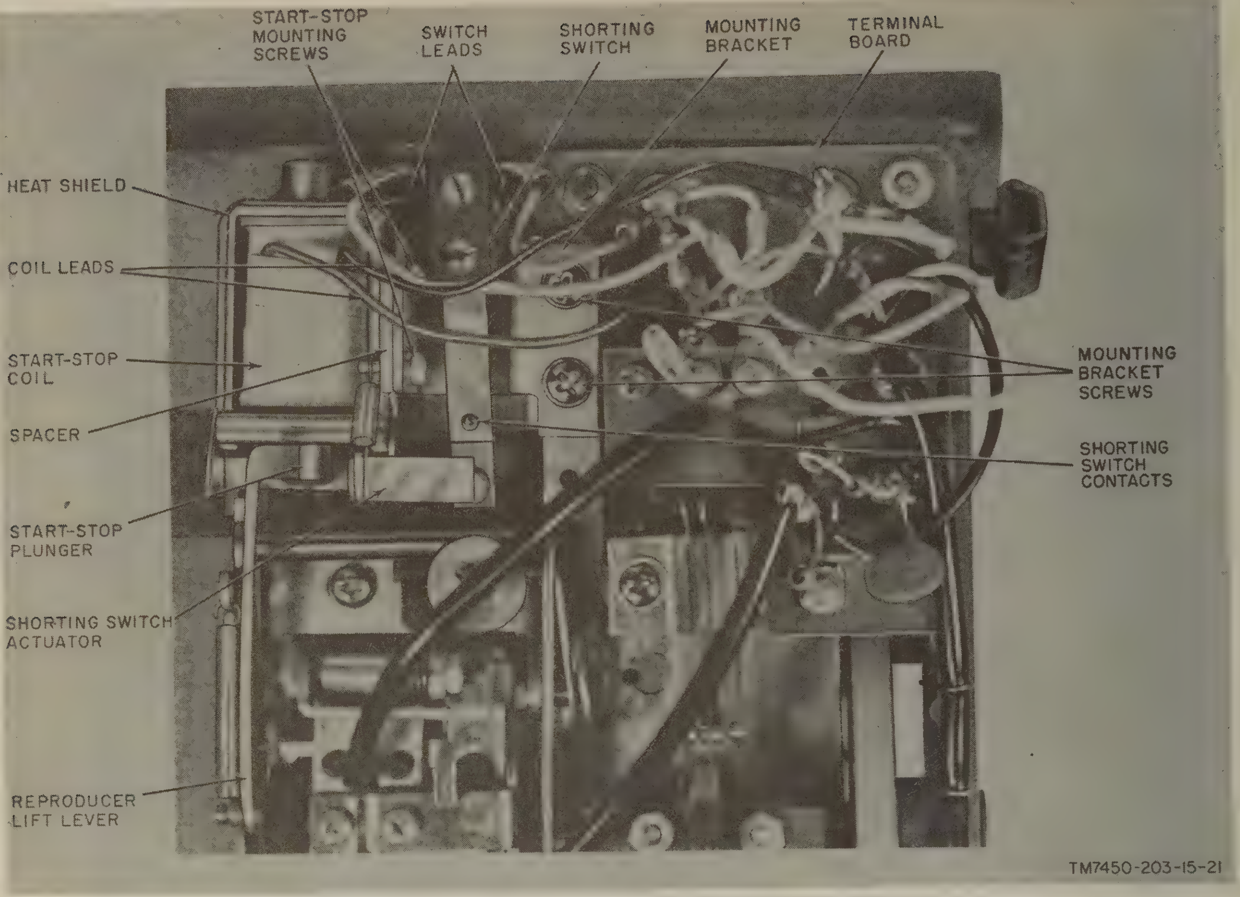


Figure 5-9. Start-stop assembly.

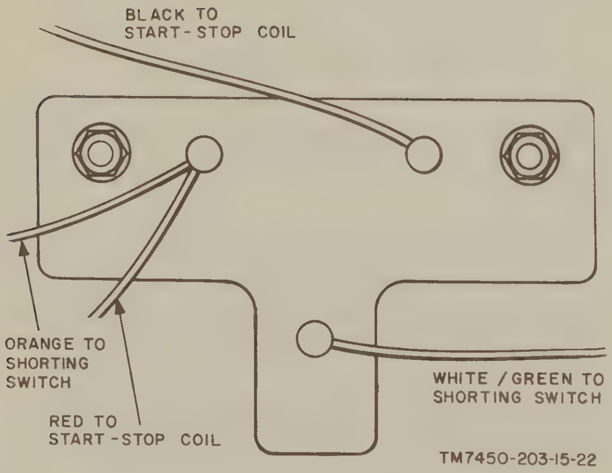


Figure 5-10. Start-stop assembly connections.

(2) Remove strips and all foreign matter from the deck channels.

b. Replacement.

(1) Apply a coat of Pliobond to the surfaces of the replacement strips and to the deck channels.

Caution: **Do not use solvents to clean the channels, and do not permit Pliobond to contact the deck surfaces of the recorder-reproducer. Pliobond and most solvents will mar the paint surface.**

(2) Wait until Pliobond on the strips and in the deck channels becomes tacky, then apply the strips direct to the channel, and press them firmly in place.

(3) Install the start-stop assembly by reversing the procedure in paragraph 5-8*a*.

Note. Pliobond may be procured from local hardware outlets in small-size bottles for easy carrying by field personnel.

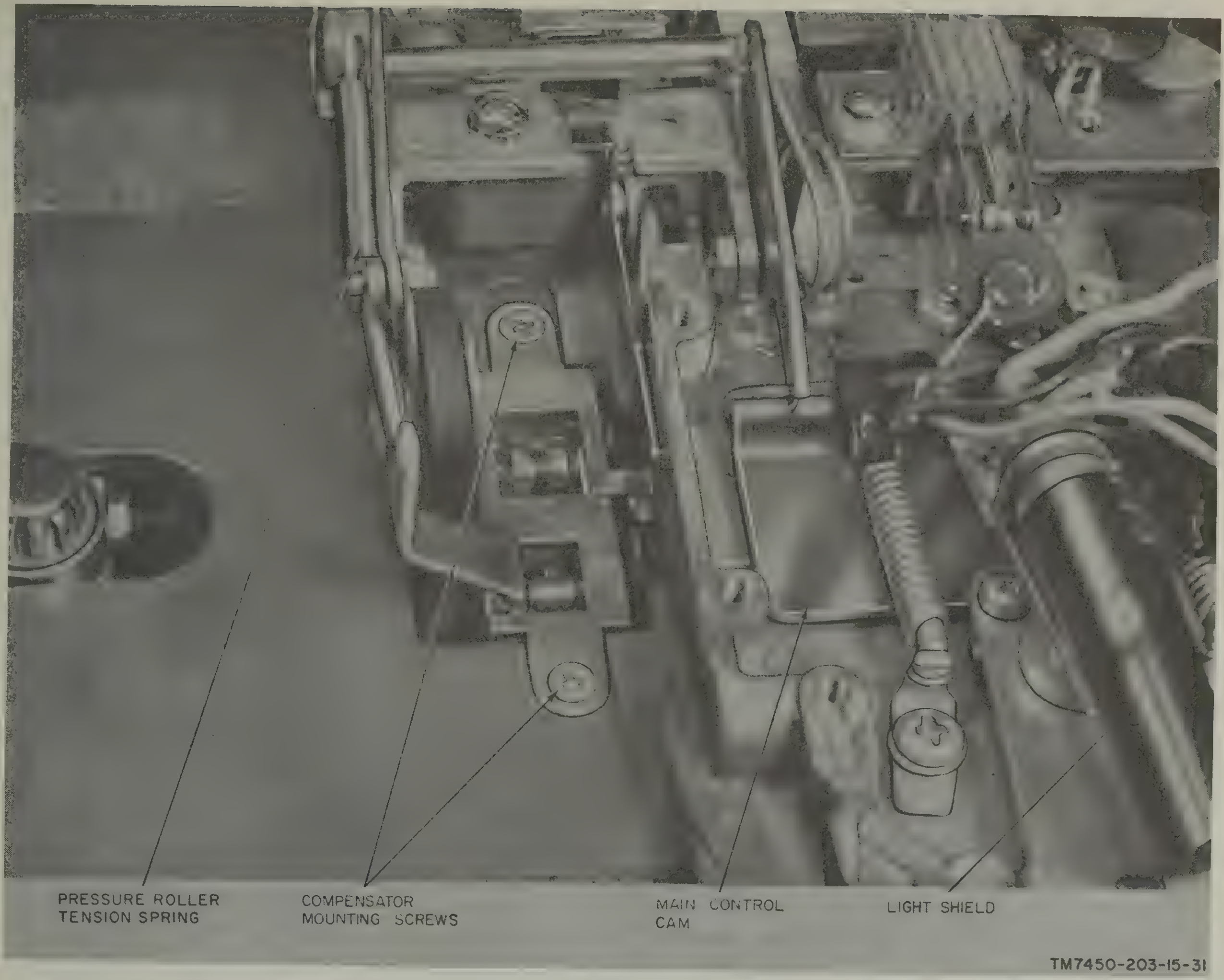


Figure 5-11. Compensator.

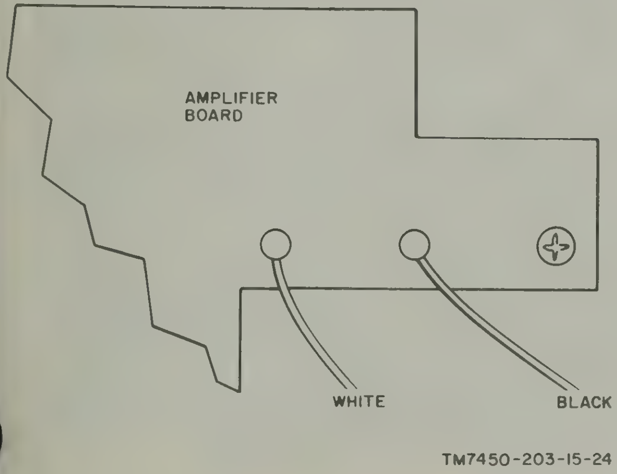


Figure 5-12. Motor connections.

5-11. Removal and Replacement of Compensator

(fig. 5-11)

a. Removal.

(1) To gain access to the compensator perform the procedures in paragraph 5-4*a*(2) and (3). Remove the E-ring (fig. 5-8) and the end of record signal actuator.

(2) Remove the two compensator mounting screws (fig. 5-11) and remove the compensator.

b. Replacement. To replace the compensator, reverse the procedure in *a* above.

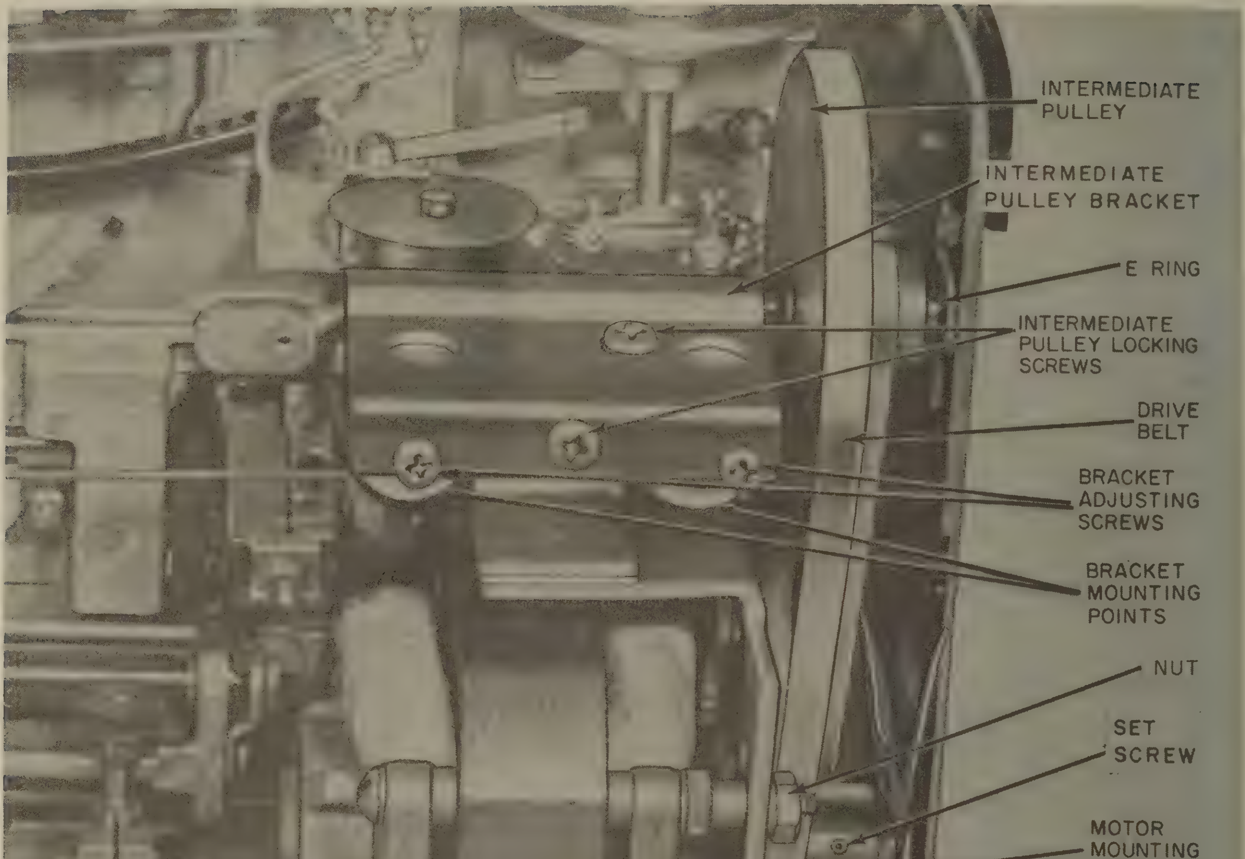


Figure 5-13. Motor assembly.

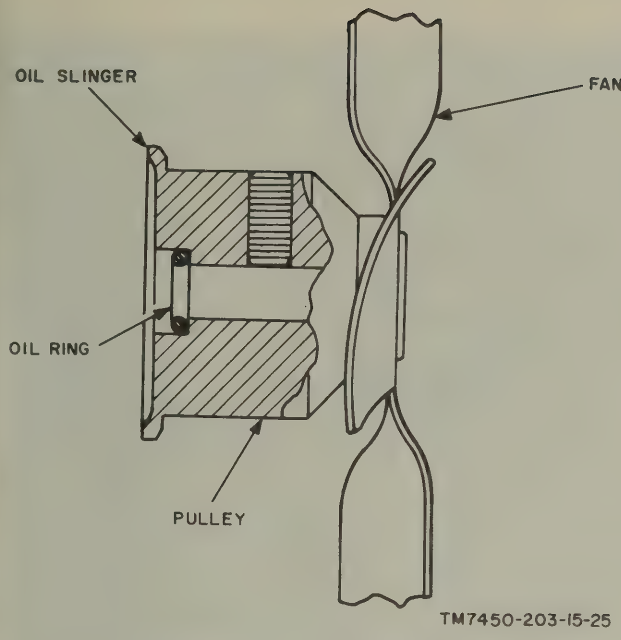


Figure 5-14. Fan pulley.

5-12. Removal and Replacement of Motor and Fan Pulley

(fig. 5-13)

a. Removal.

(1) Disconnect the electrical leads from the terminal board (fig. 5-12).

(2) Loosen the setscrew that holds the fan pulley to the motor shaft.

(3) Remove the four nuts that hold the motor to the mounting bracket. Remove the motor from the recorder-reproducer; slide the fan pulley off the motor shaft as the motor is removed.

b. Installation. To install the motor, reverse the procedure in *a* above.

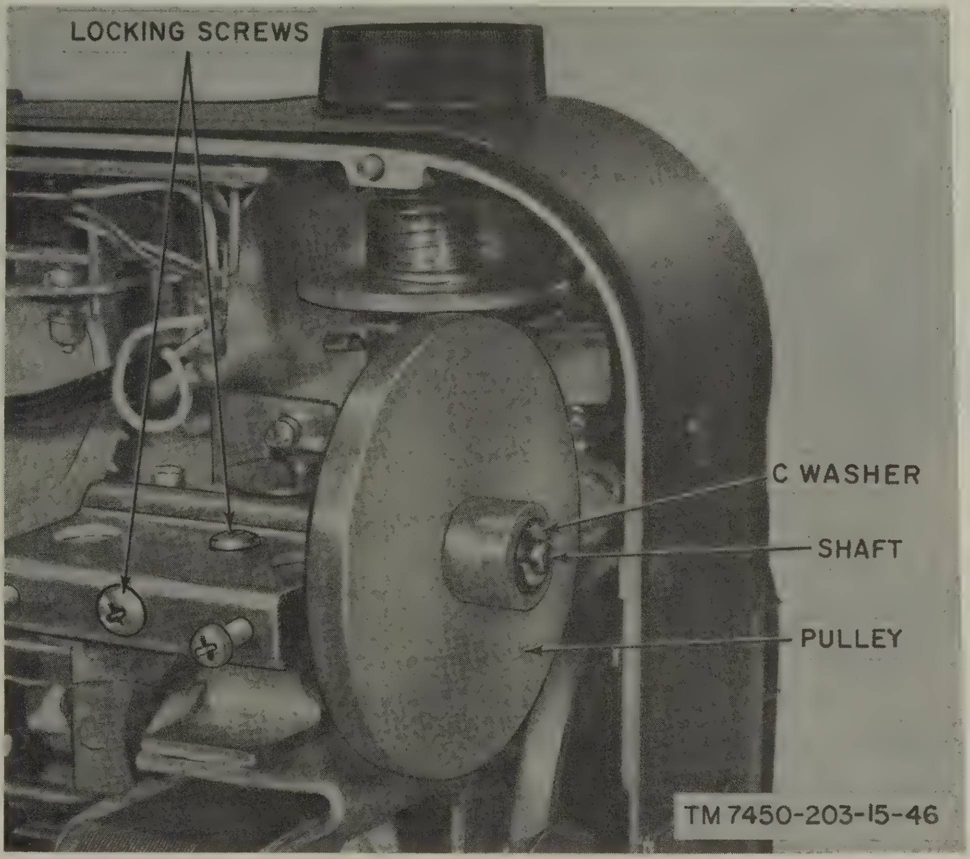


Figure 5-15. Intermediate pulley and shaft.

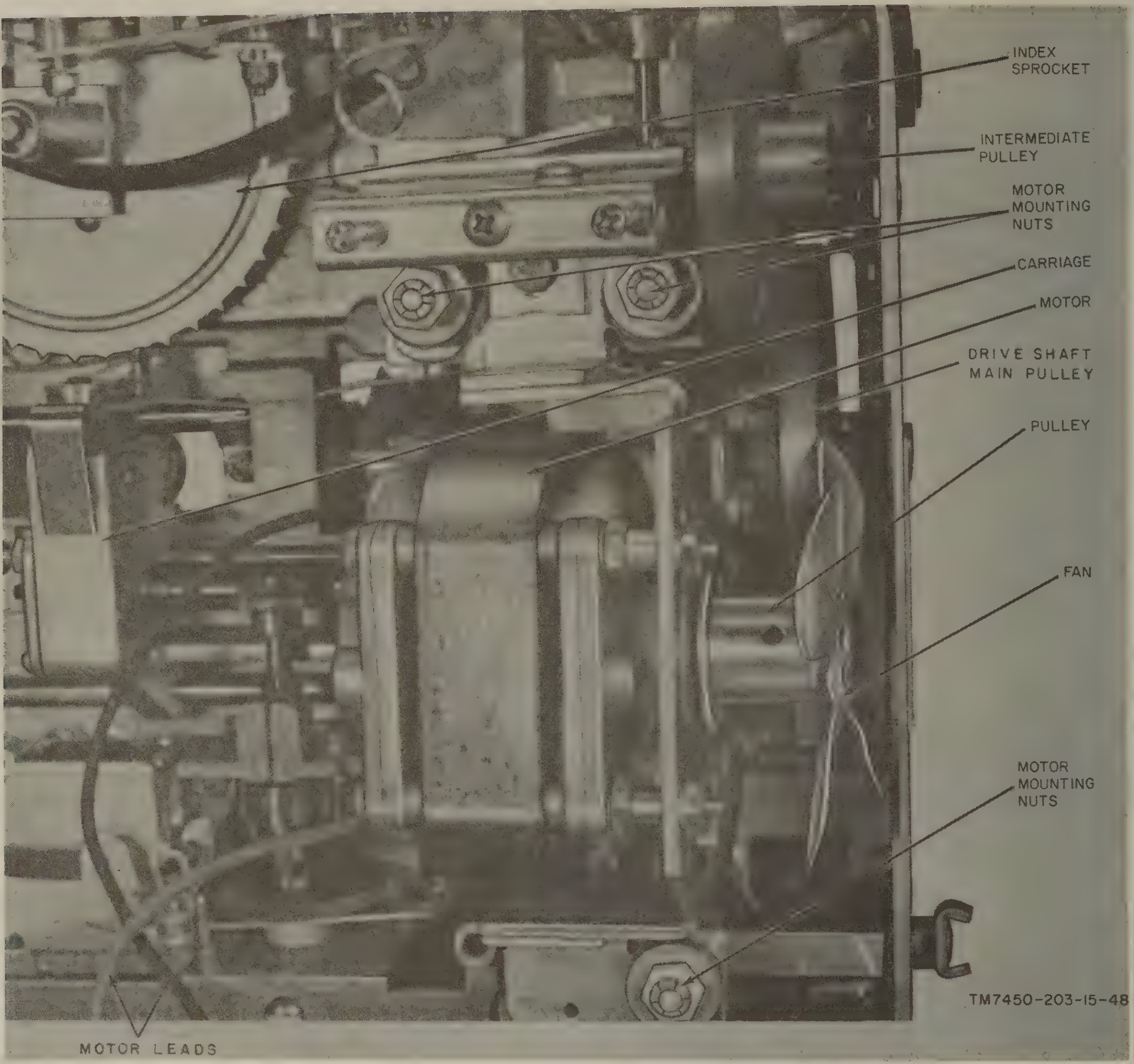


Figure 5-16. Motor intermediate pulley and bracket assembly.

5-13. Removal and Replacement of Fan Pulley and Oil Ring

(fig. 5-14)

a. Removal.

(1) Remove the fan pulley (para 5-12*a*).

(2) Remove the oil ring from the fan pulley with a spring hook or a hook-shaped piece of wire.

b. Replacement.

(1) Place the oil ring into the shaft hole and position it with a dull pencil point or a spring hook.

(2) Reverse the procedures in paragraph 5-12*a*.

Note. The blades of the replacement fan pulleys are not preset. They must be adjusted after installation for maximum pitch without striking the motor housing, belts, wires, or metal frame. Bend, by hand, the entire blade, not just the blade tips. All blades should track in the same plane. Improperly adjusted blades will appear to wobble when running at motor speed.

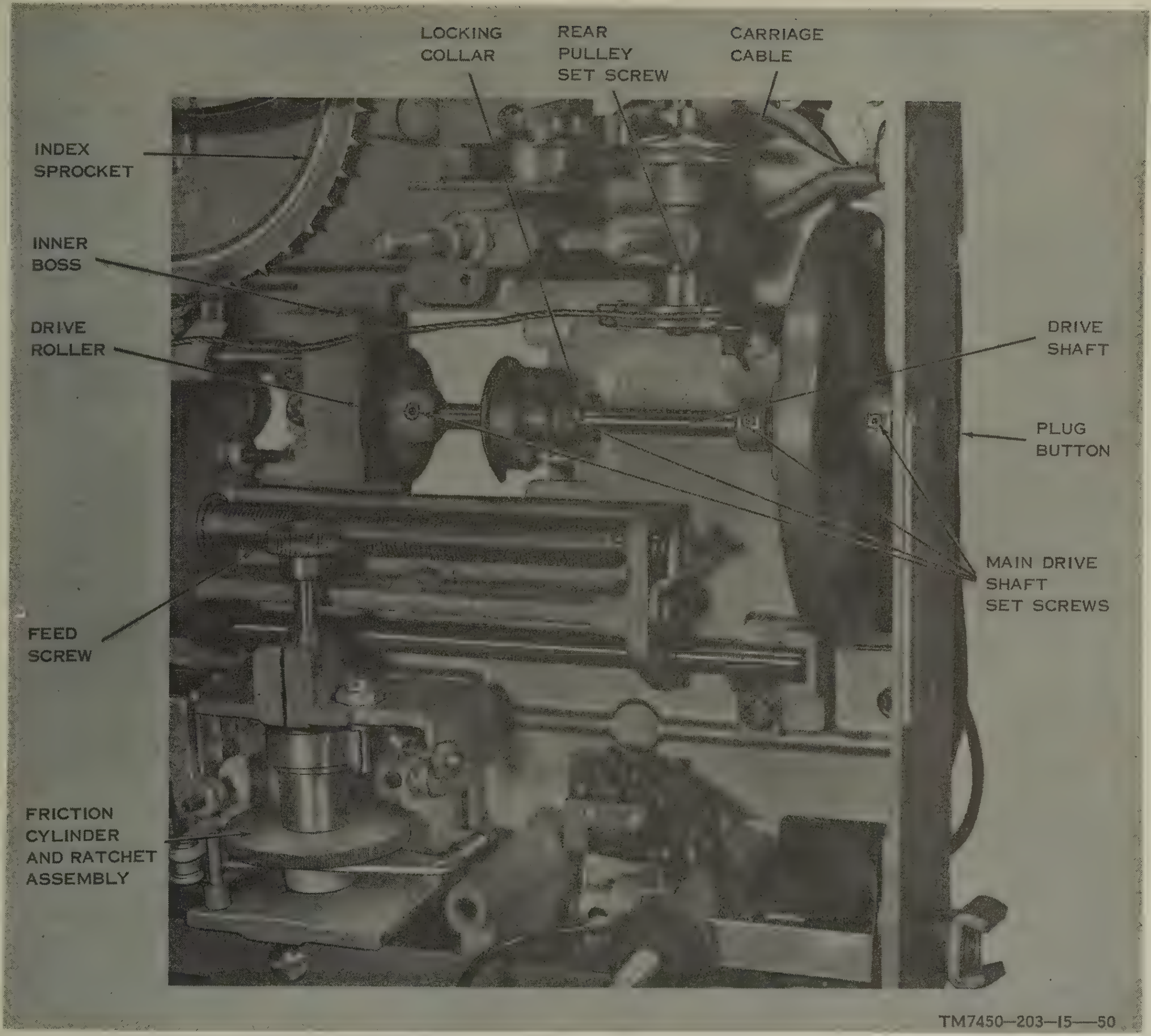


Figure 5-17. Main drive shaft.

5-14. Removal and Replacement of Intermediate Pulley and Shaft

(fig. 5-15)

a. Removal.

(1) Remove the motor belt (fig. 5-13).

(2) Remove the two locking screws and remove the intermediate pulley and shaft.

(3) Remove the C-washer and separate the pulley from the shaft.

b. Replacement.

(1) Apply 1 drop of oil to the intermediate pulley bearing (fig. 3-3).

(2) To replace the intermediate pulley on the shaft, reverse the procedure in *a* above.

5-15. Removal and Replacement of Main Drive Shaft

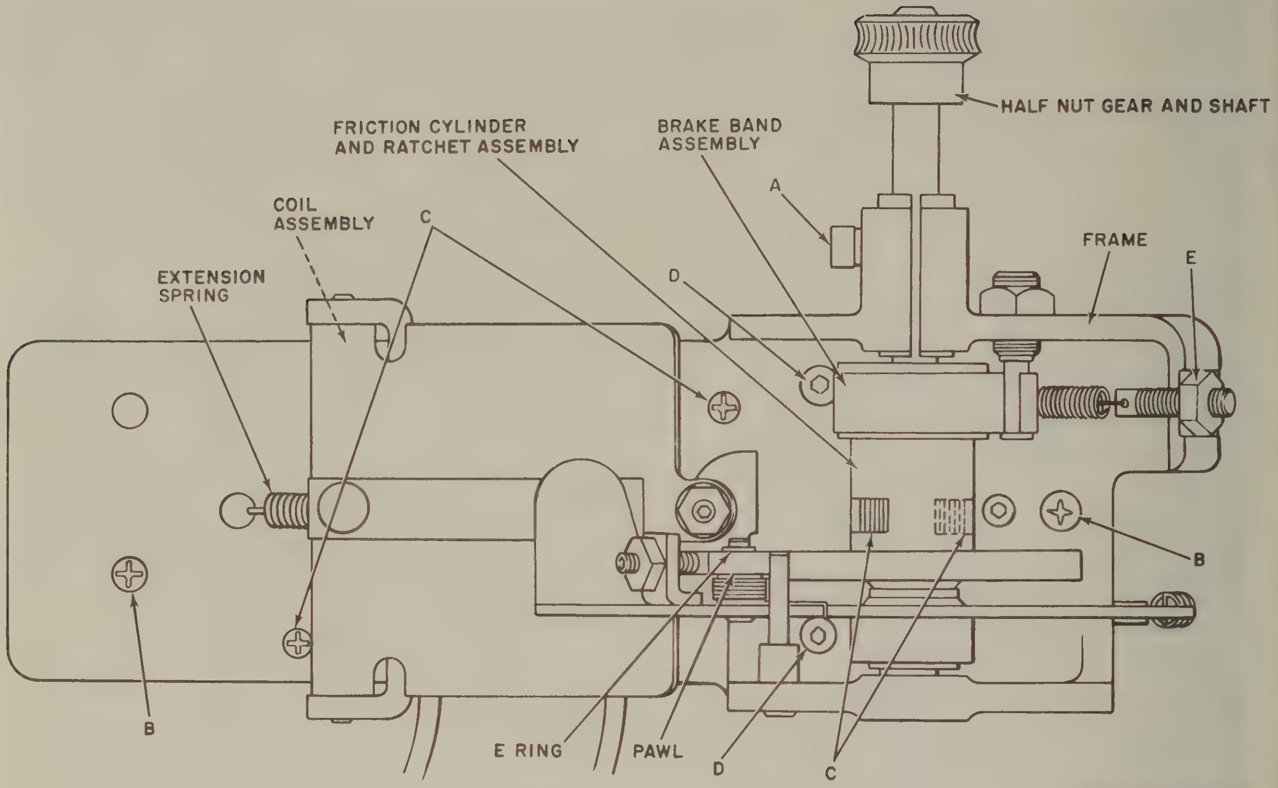
(fig. 5-17)

a. Removal.

(1) Remove the motor belt (fig. 5-13).

(2) Remove the motor mounting nuts (fig. 5-16).

(3) Remove the motor, intermediate pulley, and motor mounting bracket as an assembly.



TM7450-203-15-28

Figure 5–18. Backspace assembly.

(4) Loosen the four setscrews.

(5) Remove the C-washer (fig. 5–15).

(6) Remove the plug button from the side

(7) Slide the drive shaft through the
of the main frame.
button hole and remove the drive roller, cam, locking collar, and drive shaft pulley (fig. 6–2).

b. Replacement.

(1) Insert the drive shaft through the side of the main frame, drive pulley, and bearing.

(2) Place the locking collar on the shaft.

(3) Place the cam on the shaft.

(4) Install the retaining ring on the drive shaft. Slide the cam against the retaining ring (next to the drive roller) and tighten the setscrew.

(5) Push the drive shaft through the drive roller (fig. 6–2) into the bearing of the main frame inner boss.

(6) Locate the driving disk of the cam (fig. 6–2) about midway between the right-hand side of the compensator and edge of the hole in the top deck (fig. 5–20). Hold in this position and tighten the drive pulley against the bearing boss.

(7) Hold a 0.003- to 0.005-inch shim against the bearing near the drive pulley.

(8) Hold the locking collar and the drive pulley against the bearing in the boss and tighten the setscrew in the locking collar. Remove the shim.

(9) Rotate the drive shaft to be sure the cam does not strike the compensator or the frame and that the drive shaft rotates freely.

(10) Locate the drive roller directly below the pressure roller and tighten the setscrew. Rotate the shaft to be sure the drive roller clears the compensator.

(11) Lower the main frame as level as possible.

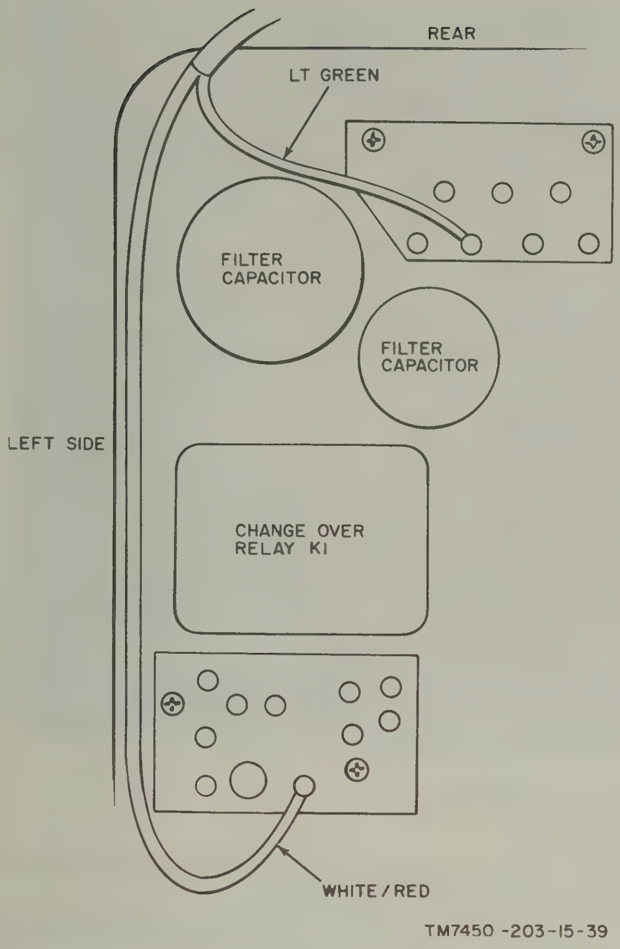


Figure 5-19. Backspace assembly connections.

(12) Reassemble the motor and the drive belt.

(13) Operate the recorder-reproducer and check belts, cam driving disk, and start-stop operation.

(14) The driving disk should click 97 ±2 times a minute.

5-16. Removal and Replacement of Backspace Assembly
(figs. 5-18 and 5-19)

a. Removal.

(1) Remove the two B-screws.

(2) Remove the two D-screws.

(3) Disconnect the wire leads from the assembly terminal board.

(4) Remove the backspace assembly.

b. Installation. To install the backspace assembly, reverse the removal procedure (*a* above).

5-17. Removal and Replacement of Backspace Assembly Components
(fig. 5-18)

Removal and installation should be accomplished only to the extent of removing and installing a defective component.

a. Removal.

(1) Remove the two C-screws.

(2) Remove the extension spring.

(3) Remove the coil assembly.

(4) Remove the E-ring.

(5) Remove the pawl.

(6) Lift the E-nut clear of the frame and remove the brake band assembly.

(7) Loosen the A-screw.

(8) Loosen the two C-screws that attach the friction cylinder and ratchet assembly to the half nut gear and shaft.

(9) Remove the half nut gear and shaft assembly.

(10) Remove the friction cylinder and ratchet assembly.

b. Installation. To install the backspace assembly components, reverse the removal procedure (*a* above).

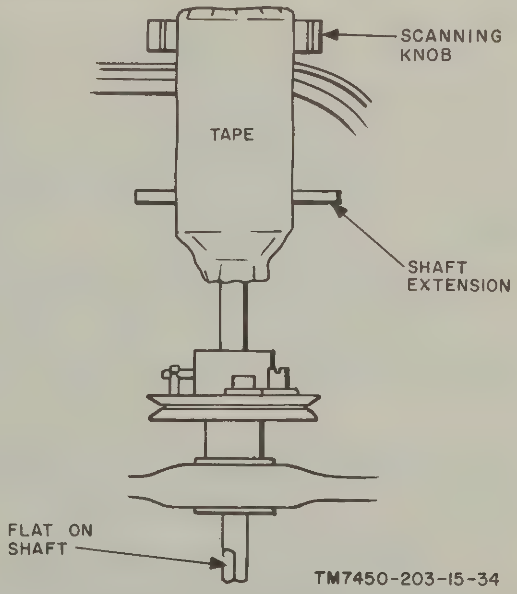


Figure 5-20. Scanning knob and shaft extension.

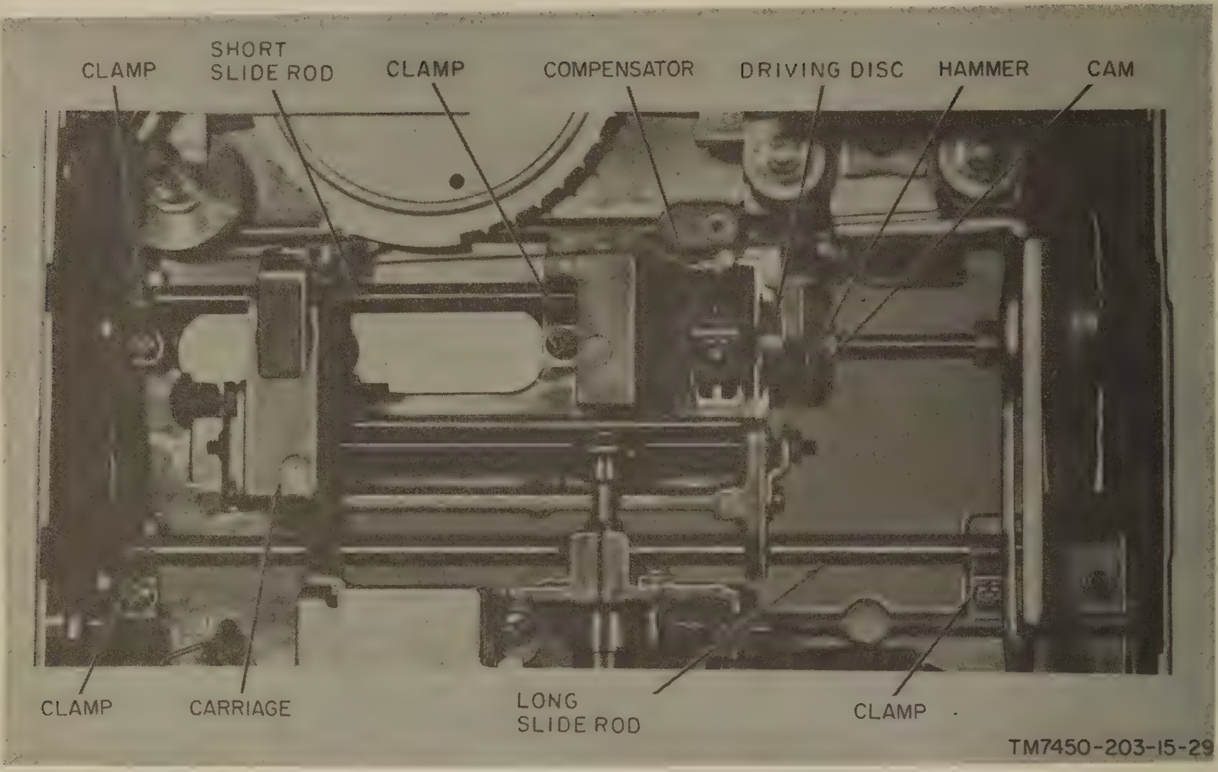


Figure 5-21. Carriage assembly.

5-18. Removal and Replacement of Carriage Assembly

(fig. 5-21)

a. Removal.

(1) Perform the procedures in paragraph 5-15*a*(1), (2), and (3).

(2) Position the scanning knob (fig. 5-20) to gain access to the rear pulley setscrew (fig. 5-17). Tape the scanning knob in this position.

(3) Tape the index cable to the left guide pulley (fig. 5-22) and place paper clips on the index sprocket, as shown in figure 5-24, to insure no movement or slippage of the index cable.

(4) Loosen the setscrew on the rear pulley (fig. 5-17) and remove the pulley from the main shaft.

(5) Untread the index cable from the cable adjusting collar as shown in figure 5-23.

(6) Remove the four clamps (fig. 5-21).

(7) Loosen the two B-screws (fig. 5-18) and remove the two D-screws.

(8) Disengage the half nut gear and shaft from the carriage.

(9) Remove the slide rods (fig. 5-21) and carriage assembly.

b. Replacement. To replace carriage, reverse the removal procedure (*a* above).

5-19. Removal and Replacement of Index Sprocket

(fig. 5-22)

a. Removal.

(1) Remove three A-screws.

(2) Remove the index sprocket with the mounting plate.

(3) Remove the E-ring.

(4) Remove the mounting plate.

(5) Remove the index sprocket.

(6) Remove the index sprocket pin.

(7) Remove the index cable from the index sprocket.

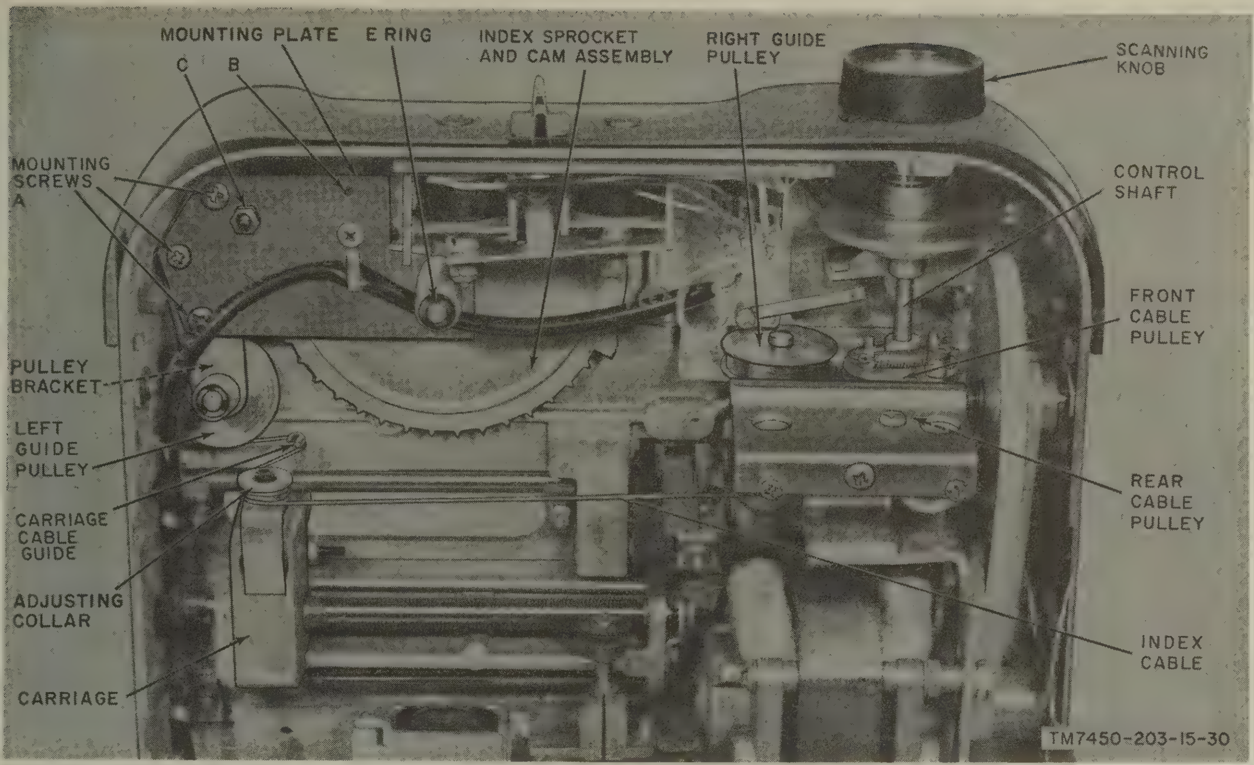


Figure 5-22. Removal of index sprocket.

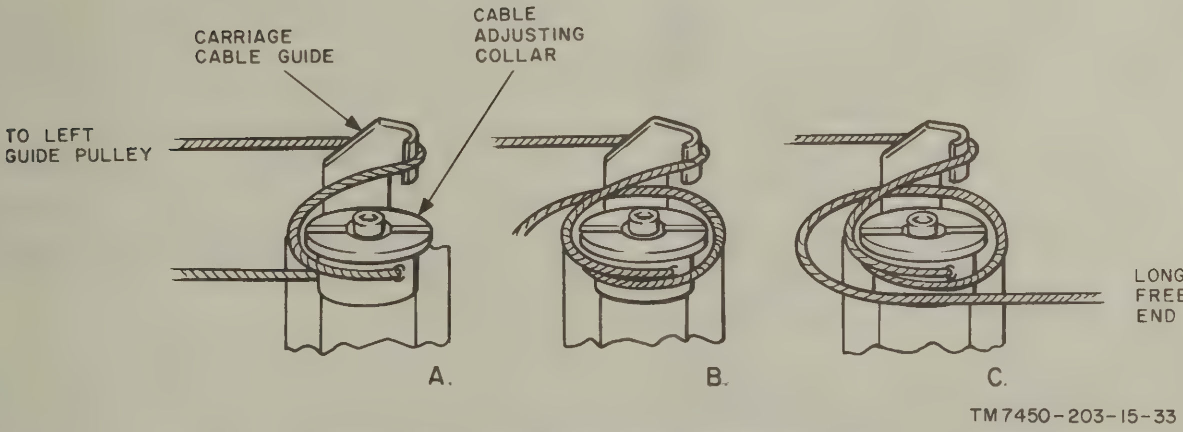


Figure 5-23. Index cable wrap on adjusting collar.

Note. Removal of the index sprocket requires reassembly or replacement of the index cable.

b. Installation. To install the index sprocket, reverse the removal procedure (*a* above). Complete replacement of the index cable is described in paragraph 5-20*b*.

5-20. Removal and Replacement of the Index Cable

a. Removal.

(1) Remove the motor pulley belts (fig. 5-13).

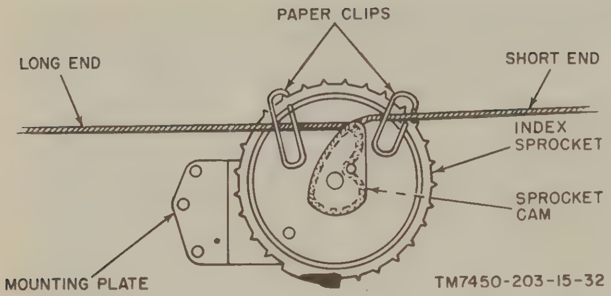


Figure 5-24. Index cable assembled to sprocket.

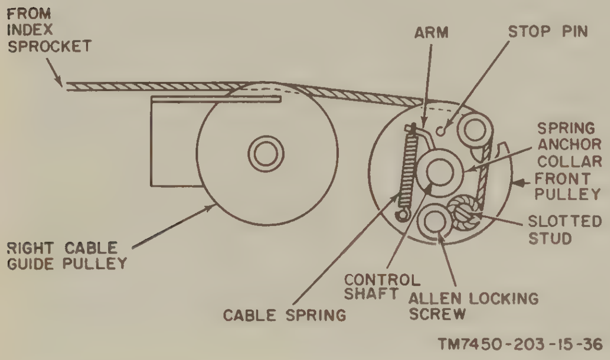


Figure 5-25. Index cable assembled to front pulley.

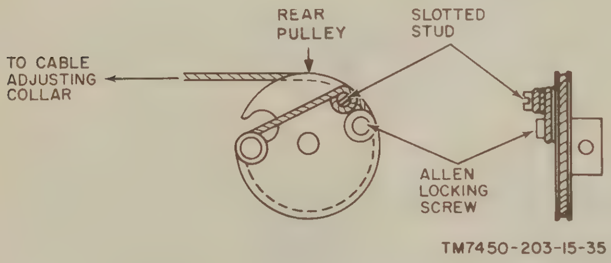


Figure 5-26. Index cable assembled to rear pulley.

(2) Remove the motor mounting nuts (fig. 5-16).

(3) Remove the motor, motor bracket, and intermediate pulley assembly as a unit.

(4) Remove the index cable from the front (fig. 5-25) and rear (fig. 5-26) cable pulleys.

(5) Perform the procedures in paragraph 5-19*a*(1) through (6).

(6) Remove the index cable.

Note. A new index cable may be fabricated as shown in figure 5-27.

b. Replacement.

(1) Wrap the short end of the index cable once around the sprocket cam in a clockwise direction (fig. 5-24).

Note. The long end of the cable trails off to the left.

(2) Fasten the cable to the sprocket with paper clips.

(3) Reassemble the index sprocket as described in paragraph 5-19*b*.

(4) Insert a screw in hole B (fig. 5-22) and lock the sprocket.

(5) Set the carriage to the extreme right. Tape or block the carriage in this position to insure no carriage movement.

Note. Figure 5-22 shows the carriage in the extreme left position.

(6) Thread the long end of the cable around the left guide pulley and carriage cable guide (fig. 5-22). Refer to figure 5-23 and wrap the cable on the carriage adjusting collar.

(7) Apply a strip of tape to the adjusting collar to keep the cable in position.

(8) Place the RECORD-LISTEN lever (fig. 5-2) in the neutral (center) position and rotate the scanning knob to a position where the cable spring on the front pulley (fig. 5-25) will be perpendicular to the top side of the main frame and at the left side of the control shaft. Apply tape as required to lock the shaft in this position.

(9) Insert the long end of the cable into the hole in the slotted stud of the rear pulley (fig. 5-26). Turn the slotted stud three revolutions to wrap the cable around the stud. Wrap the cable once around the grooved diameter of the pulley.

Note. The cable must be taut. Adjust the slotted stud as necessary to keep the cable taut.

(10) Thread the short end of the cable under the right guide pulley (fig. 5-25) and into the hole of the slotted stud on the front pulley. Wrap the cable around the slotted stud by turning the stud clockwise until the arm of the spring anchor collar just clears the stop pin.

(11) Remove the paper clips, tape, and pin or screw used to keep the index sprocket from turning.

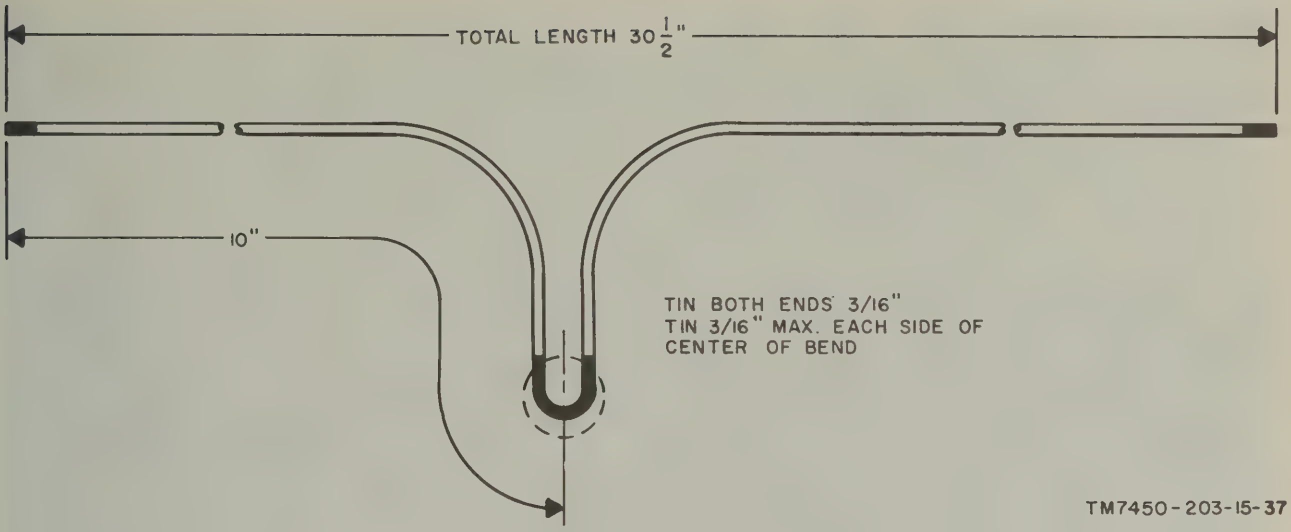


Figure 5–27. Index cable preparation.

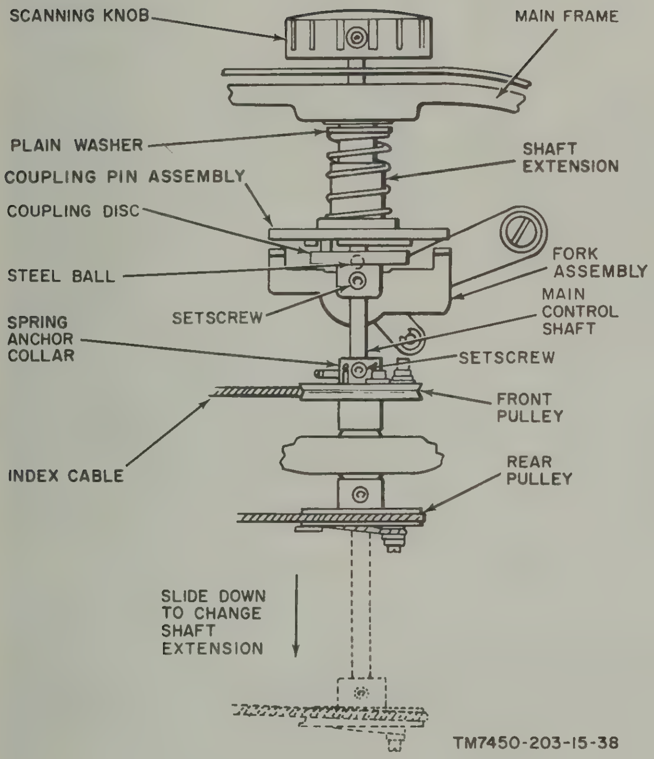


Figure 5–28. Control shafts.

(12) Reverse the procedures in *a*(1), (2), and (3) above to install the motor, motor bracket, and intermediate pulley assembly.

5–21. Removal and Replacement of Control Shafts

A split shaft is used in the recorder-reproducer and is mechanically separated whenever the RECORD-LISTEN lever is in the RECORD position. This action prevents damage to the recording which would result by the record stylus dragging across the grooves.

a. Removal.

(1) To gain access to the control shafts, perform the procedures in paragraph 5–15*a*(1), (2), and (3).

(2) Remove the scanning knob and loosen the setscrew in the coupling disk (fig. 5–28).

(3) Position the carriage laterally until the setscrews in the components on the control shaft face forward. In this position, secure the cable to the index sprocket with two paper clips (fig. 5–24). Secure the cable to the carriage by applying a strip of tape to the cable adjusting collar (fig. 5–23). Hold the rear pulley with the left hand, and with the right hand loosen the setscrew in the spring anchor collar (fig. 5–28). The position of the wrench in the setscrew keeps the components of the front pulley together. With the left hand, guide the rear pulley with the attached control shaft toward the rear of the recorder-reproducer until the end of the shaft clears the shaft

extension by approximately ½-inch. Turn the rear pulley counterclockwise to keep the cable taut. Hold the control shaft clear by lightly tightening the setscrew in the anchor collar against the polished surface of the control shaft. Do not overtighten to avoid buring the shaft.

(4) In the shaft extension, retain the steel ball that rides against the end of the control shaft. The ball is held in the shaft extension during assembly by lubricating grease.

(5) Replace the shaft extension or coupling disk. Be sure a plain washer is present between the main frame and top of the shaft

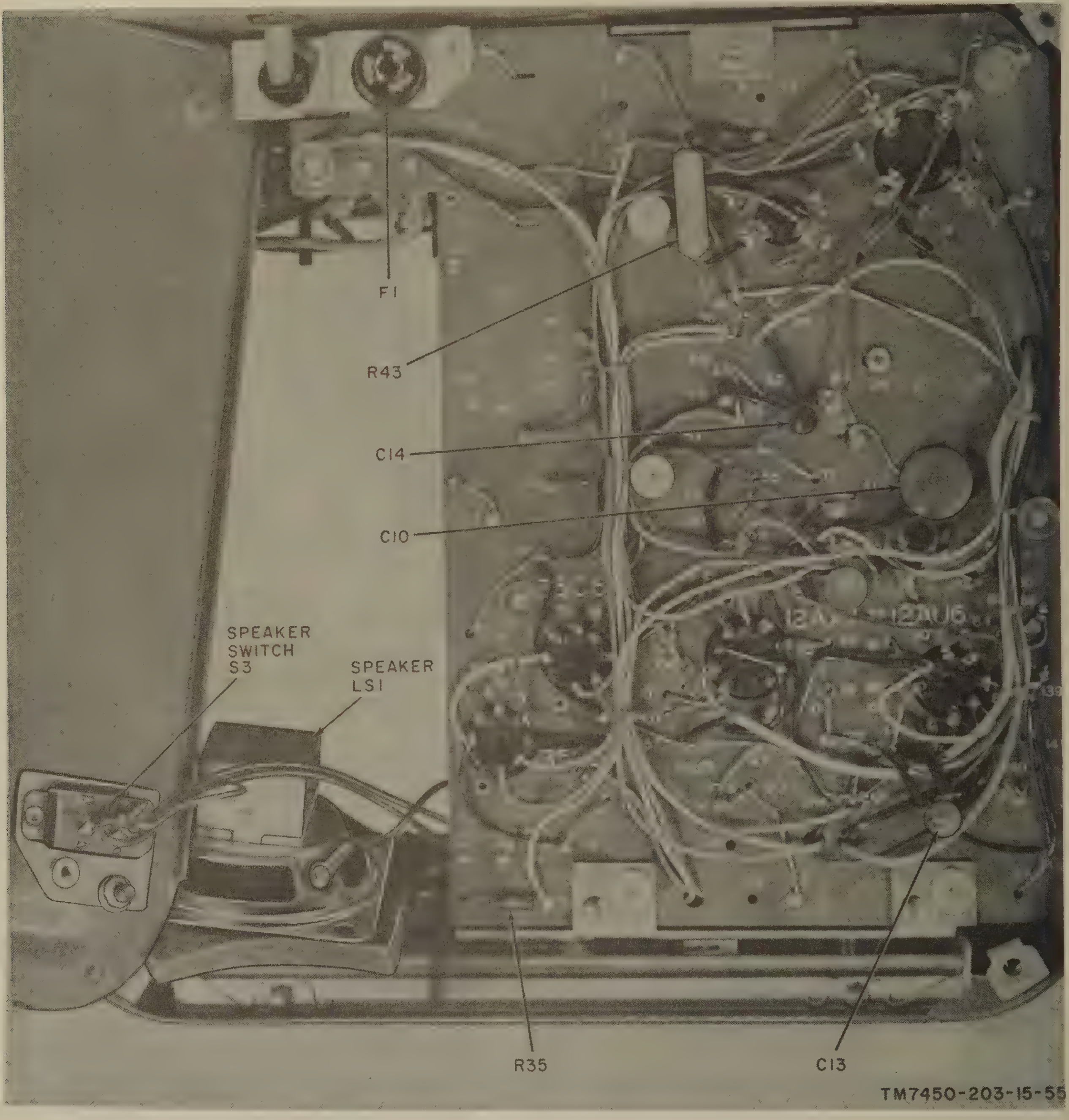


Figure 5–29. Amplifier board, bottom, view.

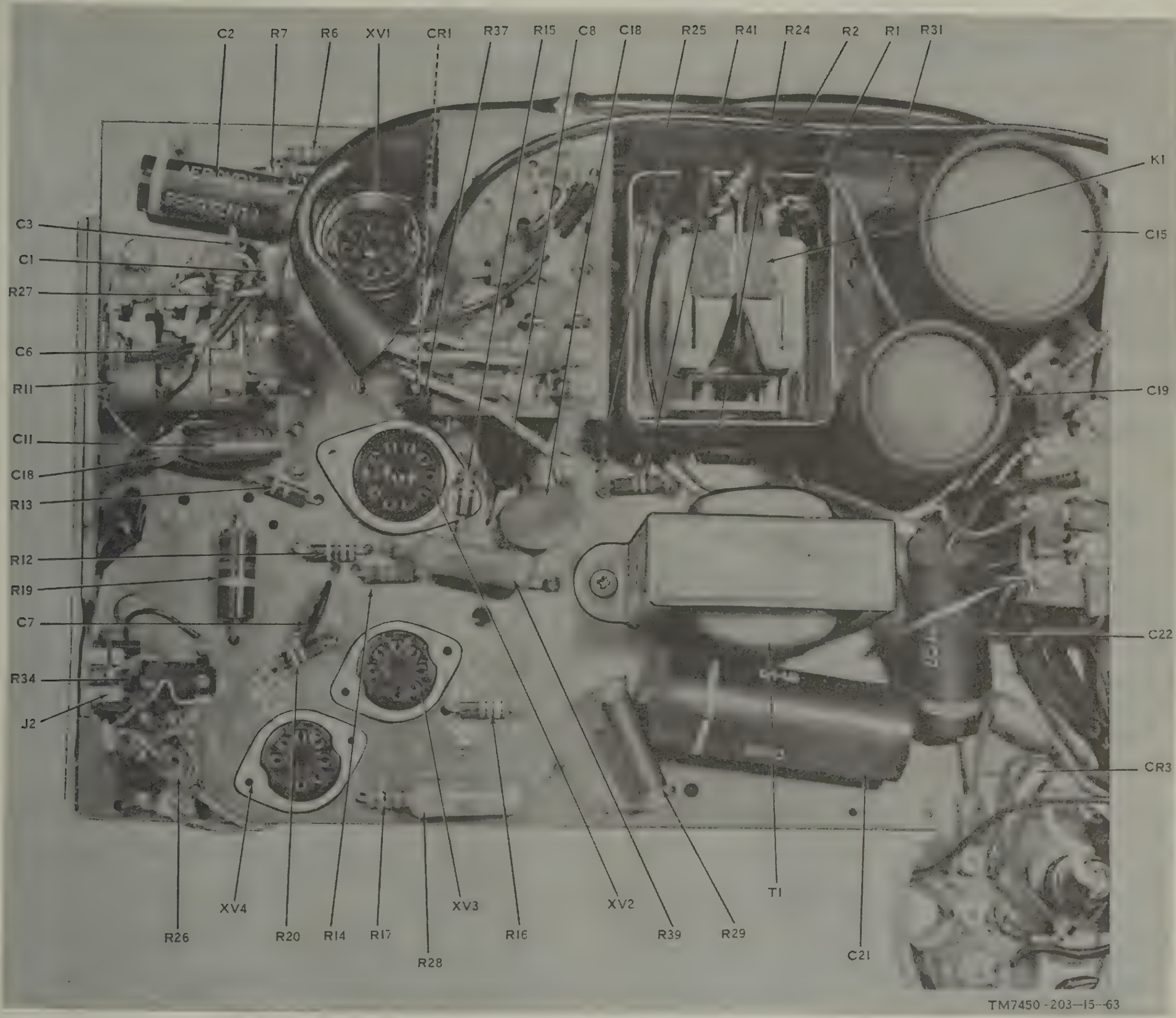


Figure 5-30. Amplifier board, top view.

extension; also that the steel ball is reassembled into the replacement extension.

b. Replacement. To replace the control shafts, reverse the removal procedure (*a* above).

5-22. Removal and Replacement of Speaker and Speaker Switch

(fig. 5-29)

a. Removal.

(1) Remove nine screws that fasten the bottom cover.

(2) Carefully remove the bottom cover so as not to damage the speaker and speaker switch leads.

(3) Identify the speaker and speaker switch leads to insure proper reassembly.

(4) Unsolder the speaker leads and remove the speaker.

(5) Unsolder the speaker switch leads, remove one attaching speaker switch nut, and remove the speaker switch.

b. Replacement. To replace speaker or speaker switch, reverse the removal procedure (*a* above).

5–23. Removal and Replacement of Amplifier Board

a. Removal.

(1) Remove the two attaching screws of J1 receptacle at the rear of the recorder-reproducer.

(2) Loosen the setscrew on the on–off–volume control and remove the knob.

(3) Remove one attaching nut on the headset jack.

(4) Perform the procedure in paragraph 5–22*a*.

(5) Remove the backspace assembly leads (fig. 5–19), motor leads (fig. 5–12), and upper frame assembly leads (fig. 5–2). Identify the leads as they are removed to insure proper reassembly.

(6) Remove the amplifier board by sliding it downward and to the rear.

(7) Replace the amplifier board components as necessary.

b. Replacement. To replace the amplifier board, reverse the removal procedure (*a* above).

Section III. ADJUSTMENT AND ALIGNMENT

5–24. General

This section contains the adjustment procedures and tolerance requirements for the AN/TNH–16. When making individual adjustments, check all related adjustments. Where removal of parts or subassemblies is necessary to make an adjustment, reference is made to specific paragraphs for removal and replacement instructions.

5–25. Groove Structure

(fig. 5–31)

Before final adjustment of the recorder head and reproducer head, it is necessary to understand groove structure. The components directly affecting groove structure are the recorder head stylus, reproducer head stylus, disk, and compensator.

a. The recorder head stylus has a 0.001-inch conical diamond tip. The reproducer head stylus has a 0.002-inch conical sapphire tip.

b. The disk is of comparatively soft plastic capable of being embossed and of retaining the slight variations (modulation) imparted to the groove during the embossing, for long periods of time. Disks vary in thickness from 0.009 inch to 0.011 inch.

c. The compensator has two spring-loaded rollers (fig. 5–32) at the rear and a single roller at the front. An adjustable slide (fig. 5–34) is provided which affects the height of the rear rollers. The slide determines the height of the rear rollers when the recorder head stylus is off the disk. This slide is adjusted at the factory and rarely needs readjustment.

d. The rear roller tension adjusting screw (fig. 6–4) determines the amount of pressure exerted by the rear compensator rollers against the disk to give the proper width of groove. It is a field adjustment.

e. Figure 5–31 shows relation of the stylii tips to the groove. The reproducer tip with the larger radius should never touch the bottom of the groove.

f. Figure 5–32 shows the relative position of the recorder head stylus to the compensator rollers. An imaginary line drawn through the long axis of the recorder head stylus should pass through the center point of the rear compensator rollers. If the vertical center line is passed, the groove depth will not be deep enough to hold the reproducer stylus.

g. Moving the record head stylus back toward the rear of the rollers will fracture the disk, because the stylus will be opposing the rotation of the disk.

h. Figure 5–33 shows the relation of the record head stylus to the compensator rollers, when viewed from the front, and the resultant groove formations. The center sketch is the optimum setting and will give the best results, especially when backspacing.

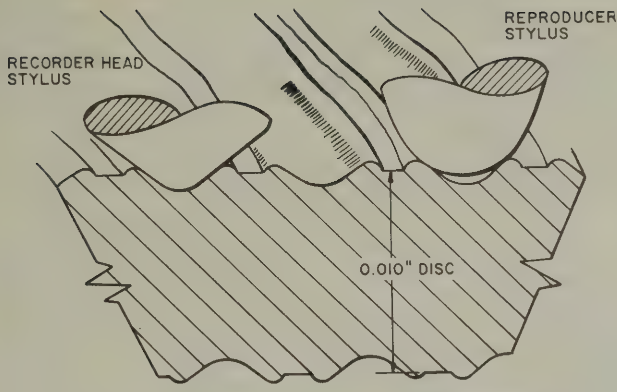


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Figure 5–31. Stylus relation to disk grooves.

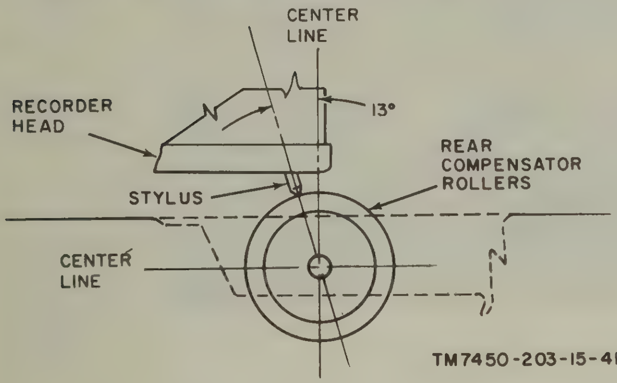

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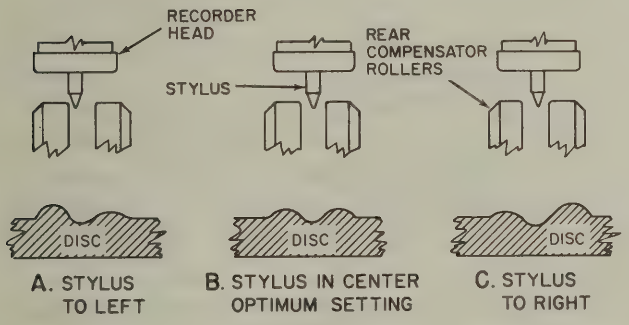
Figure 5–32. Recorder stylus relation to compensator rollers, side view.



A. STYLUS TO LEFT

B. STYLUS IN CENTER OPTIMUM SETTING

C. STYLUS TO RIGHT

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Figure 5–33. Recorder stylus relation to compensator rollers, front view.

5–26. Rear Compensator Roller Height (fig. 5–34)

a. Requirement. With the RECORD–LISTEN lever (fig. 5–2) in the neutral position, the rear compensator roller must be 0.010 inch higher than the front compensator roller.

b. Adjustment.

(1) Place a disk on the spindle.

(2) Loosen the rear roller adjusting screw.

(3) Position the adjustable slide to raise or lower the rear compensator roller to meet requirements (*a* above).

Note. The disk is 0.010 inch thick. The adjustable slide is positioned correctly when the rear compensator rollers (fig. 5–32) are level with the top of the disk, and the front compensator rollers are level with the bottom of the disk.

(4) Tighten the rear roller adjusting screw.

5–27. Rear Compensator Roller Tension (fig. 5–34)

a. Requirement. The groove width must be set as wide as possible without crosstalk occurring. (Crosstalk occurs when the groove width is great enough for some modulation of one groove to affect adjacent grooves.)

b. Adjustment.

(1) Place a disk on the spindle.

(2) Set the RECORD VOLUME control ¾ clockwise, record, and count 1 to 10. Allow ¾ revolution of the disk between digits (7½ revolutions to 10 counts).

(3) Go back to the original point in (2) above, and listen to the recording.

(4) If no crosstalk is heard, increase the groove width by increasing the spring tension on the compensator rear rollers and turning the spring tension nut clockwise until it is heard. (By recording a digit every ¾ revolution, the next higher digit will be heard before the one that should be heard. *For example,* a soft 5 will be heard ¼ revolution before a full volumne 4.)

(5) After crosstalk is detected, back off the spring tension 1 to 2 faces of the nut at a time until no crosstalk is heard. It is important that this adjustment be made in small increments so that the groove is left as wide as practicable without crosstalk. Narrow grooves cause tracking problems.

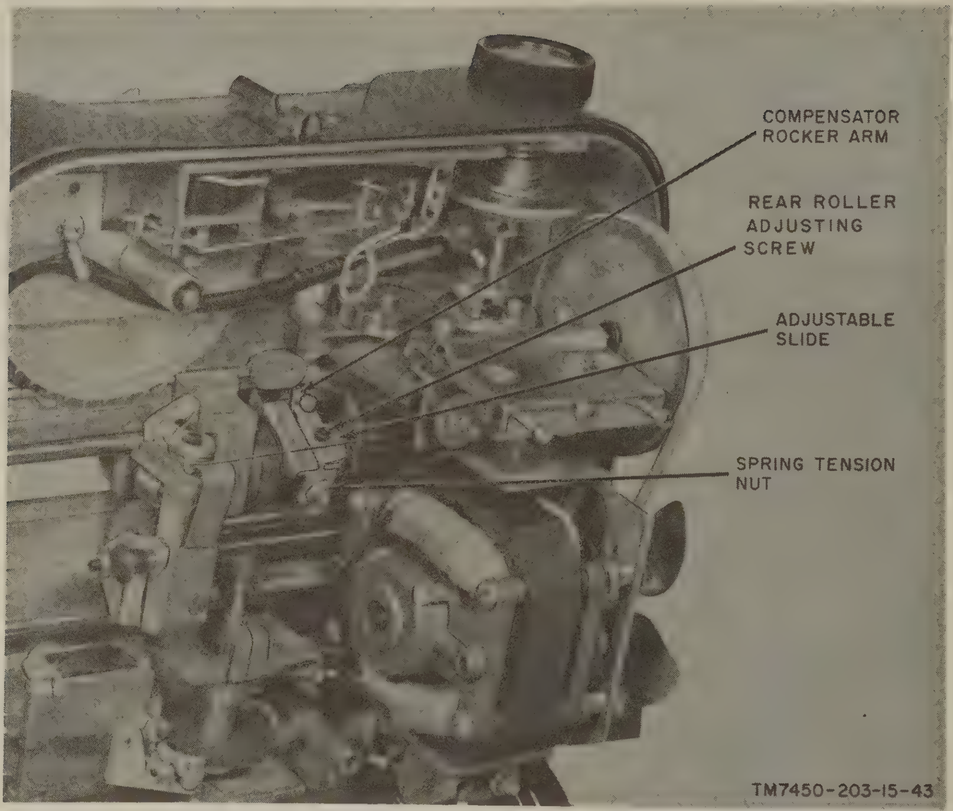


Figure 5–34. Compensator adjustment.

5–28. Reproducer Assembly Adjustments
(fig. 5–35)

a. Requirements.

(1) The reproducer must give clear, sharp reproduction.

(2) The reproducer head stylus should be set approximately two disk grooves behind the recorder head stylus to allow for instant replay.

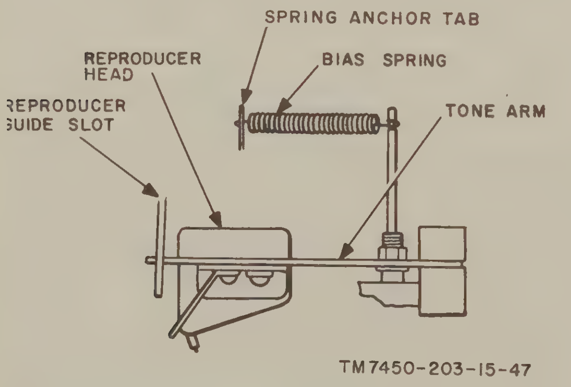


Figure 5–35. Reproducer assembly adjustments, side view.

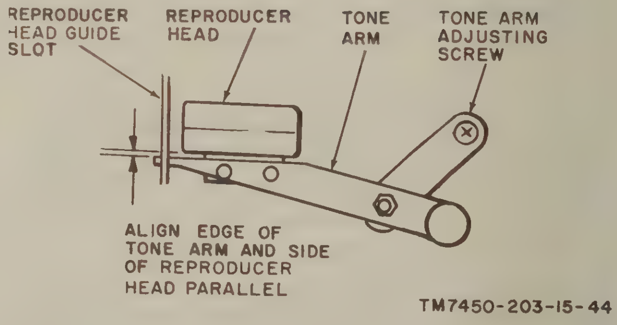

REPRODUCER HEAD GUIDE SLOT
REPRODUCER HEAD
TONE ARM
TONE ARM ADJUSTING SCREW
ALIGN EDGE OF TONE ARM AND SIDE OF REPRODUCER HEAD PARALLEL
TM7450-203-15-44

Figure 5–36. Reproducer assembly adjustments, top view.

b. Adjustments.

(1) Bend the spring anchor tab to the front of the recorder-reproducer until the bias spring has no tension.

(2) Place a clean, unused disk on the spindle, then set the RECORD–LISTEN lever to LISTEN with the power turned on.

(3) Slowly bend the spring anchor tab toward the rear of the recorder-reproducer until the reproducer head stylus produces a barely noticeable mark on the disk.

(4) Make a voice recording consisting of five bands, with at least 5 revolutions per band with 2 to 4 lines of blank, unrecorded space between each 2 bands on a known good recorder-reproducer. This blank space is produced by allowing the disk to rotate with the RECORD–LISTEN lever at LISTEN from 2 to 4 revolutions then switching the RECORD–LISTEN lever back to RECORD for the next band.

(5) Return the disk back to the beginning of the first band, with the RECORD–LISTEN lever at LISTEN, and listen to all five bands.

(6) There should be no more than one post echo and one pre-echo. A post echo occurs when the first groove of a band can be heard faintly 1 revolution before the stylus falls into the groove at which the first revolution will be heard at a full volume. A post echo occurs when the last revolution of a band is heard more than once.

(7) If more than one each pre-echo and post echo is heard, increase the bias spring tension by bending the spring anchor tab farther toward the rear of the recorder-reproducer.

(8) Listen to the five bands again. Increase tension more, if necessary. If unable to obtain satisfactory results, the reproducer head stylus (fig. 5–6) is probably chipped or worn and needs replacement.

(9) Replace the reproducer head stylus (para 5–6*a* and *b*) and repeat the procedures in (1) through (8) above.

(10) Loosen the tone arm adjusting screw slightly and reposition the tone arm as shown in figure 5–36.

Note. Move the tone arm toward the recorder-reproducer for less playback, and away for more playback; check to see that the tone arm is correctly positioned in the reproducer head guide slot and has freedom of movement along the entire vertical length of the reproducer head guide slot.

(11) Tighten the tone arm adjusting screw and check the reproducer assembly to be sure it meets the requirements (*a* above).

5–29. Recorder Assembly Adjustments

a. Requirements. With the RECORD–LISTEN lever in the RECORD position, observe the relationship between the record head stylus and the rear compensator roller (fig. 5–32 and 5–33). The stylus must be centered between the rear compensator rollers and an imaginary line drawn through the long axis of the stylus. The line must pass through the center point of the rear compensator rollers. Move the RECORD–LISTEN lever to the neutral position and place a disk on the spindle. Place the recorder head stylus on the disk by setting the RECORD–LISTEN lever in the RECORD position, and, at the same time, observe the compensator rocker arm (fig. 5–34). The compensator rocker arm should rise 0.010 inch off the adjustable slide when the stylus presses down on the disk.

b. Adjustment.

(1) Place the adjusting tool (¼-inch hexagonal stubby nut driver) on the centering setscrews (fig. 5–37). Tighten and loosen the setscrews alternately in ½-turn increments until the recorder head stylus is positioned as shown in figure 5–33.

(2) Loosen the two recorder mounting screws (fig. 5–37) and position the recorder head stylus as shown in figure 5–32. Retighten the two recorder mounting screws.

(3) Place a disk on the spindle and position the disk under the recorder head stylus. Place the RECORD-LISTEN lever in the RECORD position.

(4) Place the adjusting tool on the height adjustment setscrew (fig. 5–37). Place a length of bare AWG 30 (0.010 inch) wire between the compensator rocker arm (fig. 5–34) and the adjustable slide. Adjust the setscrew for 0.010 inch spacing.

5–30. RECORD–LISTEN Lever Adjustments
(fig. 5–37)

a. Requirements. The RECORD–LISTEN lever should have no tendency to bind, and

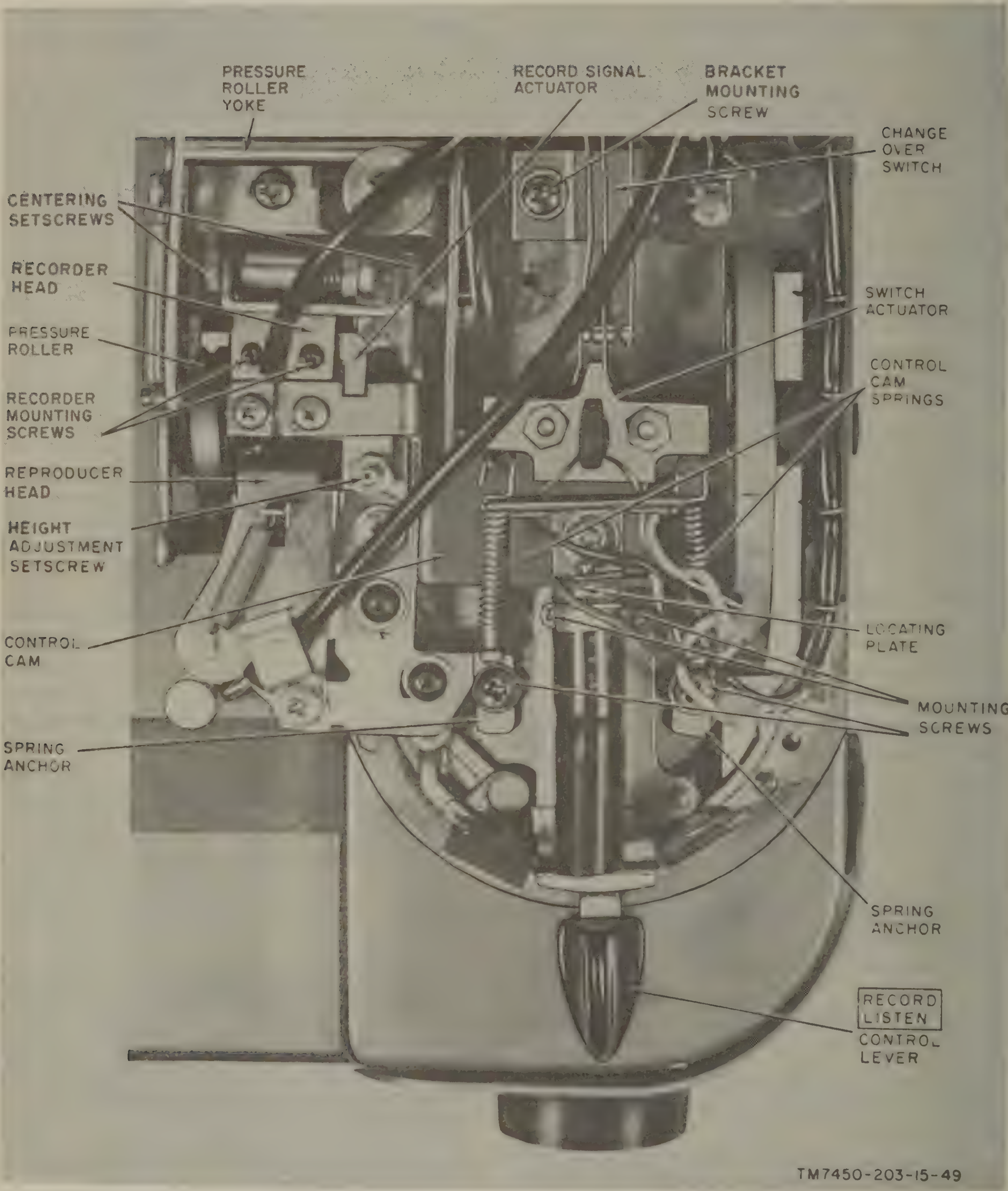


Figure 5–37. Main frame adjustments.

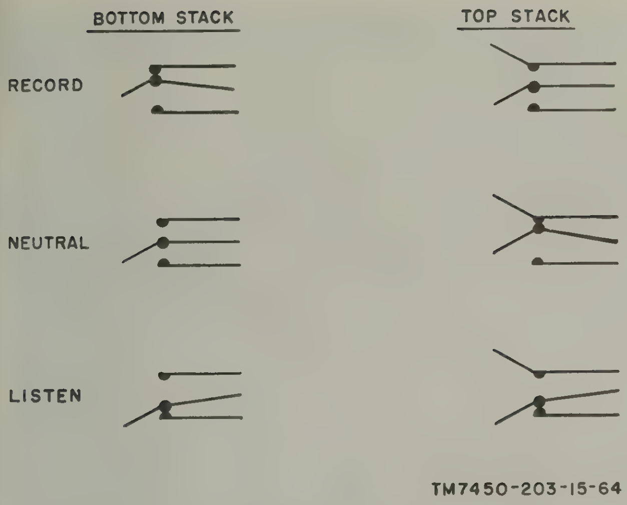


Figure 5–38. Changeover switch contacts.

should lock in the RECORD or LISTEN position. When moved manually from these positions, the RECORD–LISTEN should snap into the neutral position.

b. Adjustments.

(1) To prevent binding, loosen the two A-screws.

(2) Place the RECORD–LISTEN lever in the neutral position.

(3) Adjust the locating plate to its most rearward position and tighten the two A-screws.

(4) Lubricate the locating plate pivot (fig. 3–1).

(5) To assure proper snap action, place the RECORD–LISTEN lever in the neutral position.

(6) Loosen the two B-screws.

(7) Move the two spring anchors forward until all spring slack is removed.

(8) Tighten the two B-screws.

(9) Lubricate the two cam positioning spring rods as shown in figure 3–1.

Note. Excessive spring pressure will result in poor snap action.

5–31. Changeover Switch Adjustments
(fig. 5–38)

a. Requirement. The changeover switch contacts must make and break as shown in figure 5–38.

b. Adjustments. Move the RECORD–LISTEN lever through RECORD, neutral, and LISTEN positions. The changeover switch contacts may be easily adjusted by loosening the bracket mounting screw (fig. 5–37) and repositioning the top and bottom stacks of the changeover switch to conform to the requirements, as shown in figure 5–38.

5–32. Pressure Roller Assembly Adjustments
(fig. 5–39)

a. Requirements.

(1) Positive drive with the RECORD–LISTEN lever in the RECORD and LISTEN positions.

(2) No creeping or marring of the disk with the RECORD–LISTEN lever in the neutral position.

(3) Sufficient gap between the rollers with the RECORD–LISTEN lever in the neutral position, to allow easy insertion or removal of the disk.

b. Adjustments.

(1) Check to be sure that the recorder-reproducer is turned off and the RECORD–LISTEN lever is in the neutral position, with no disk in place.

(2) Loosen the pivot screw.

(3) Place a $\frac{1}{16}$-inch (0.0625 in.) nonmagnetic feeler gage between the drive and pressure rollers. Lower the pressure roller so it just touches the feeler gage and tighten the pivot screw.

(4) Remove the feeler gage and check the pressure roller for any tendency to bind, by rotating the pressure roller.

(5) Turn the recorder-reproducer on, but do not use a disk. Move the RECORD–LISTEN lever to RECORD.

(6) Energize the stop-start solenoid by depressing the start–stop switch on the steno-mask. Insert a 0.012-inch nonmagnetic feeler gage between the drive and pressure rollers.

(7) Adjust the start–stop yoke positioning locknut against the bar of the start-stop yoke to raise or lower the pressure roller until the point is reached where the 0.012-inch feeler gage will remain in place, but a 0.016-inch feeler gage will be ejected from between the rollers. The proper setting is 0.014 inch.

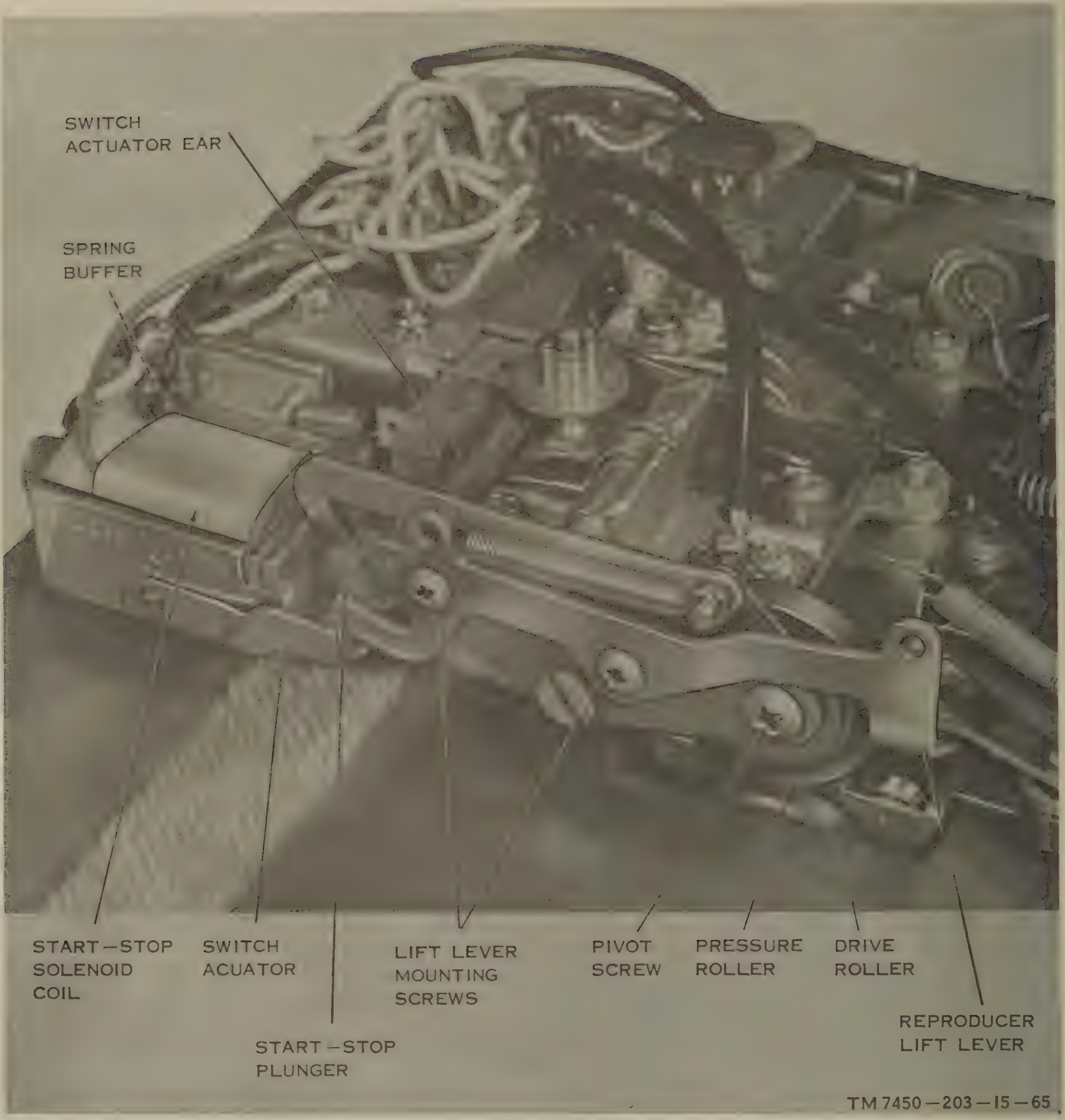


Figure 5-39. Pressure roller and reproducer lift lever adjustments.

5-33. Reproducer Lift Lever Adjustments

(fig. 5-39)

a. Requirements.

(1) With the RECORD-LISTEN lever in the neutral position, the rear of the reproducer lift lever must engage the switch actuator to insure a 0.020- to 0.030-inch clearance between the actuator ear and the insulated spring buffer of the switch.

(2) With the RECORD-LISTEN lever in the neutral position, the front of the reproducer lift lever raises the tone arm to within 0.010 to 0.020 inch of the top of the reproducer guide slot (fig. 5-35).

Note. Move the RECORD-LISTEN lever from the neutral to RECORD position and observe this action.

b. Adjustment.

(1) Loosen the two mounting screws.

(2) Insert a 0.025-inch feeler gage between the actuator ear and the insulated spring buffer.

(3) Reposition the reproducer lift lever to meet this 0.025-inch requirement and tighten the rear mounting screw.

(4) Place a length of bare 26 AWG wire between the top of the reproducer guide slot (fig. 5–35) and the tone arm. (The 26 AWG wire is used as a replacement for a 0.015-inch feeler gage.)

(5) Reposition the reproducer lift lever to meet this 0.015-inch requirement and tighten the front mounting screw.

(6) Recheck the 0.025-inch and 0.015-inch requirements, and readjust if necessary.

5–34. Switch Actuator Adjustments

(figs. 5–39 and 5–40)

a. Requirements. Push the start–stop plunger forward; the switch actuator ear must cause the shorting switch contacts (fig. 5–2) to open a minimum of 0.008 inch.

b. Adjustments.

(1) Perform the reproducer lift lever adjustments (para 5–33).

(2) Push the start–stop plunger forward and insert a 0.008-inch feeler gage between the shorting switch contacts.

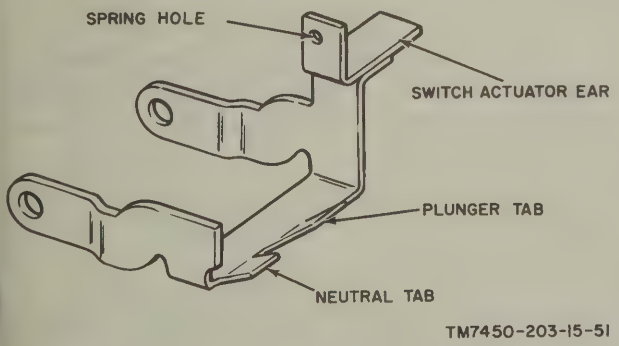


Figure 5–40. Switch actuator.

Note. The 0.008-inch requirement usually can be attained by loosening the rear lift level mounting screw (fig. 5–39) and repositioning the reproducer lift lever. If the 0.008-inch requirement cannot be attained this way, proceed to (3) below.

(3) Grasp the plunger tab (fig. 5–40) with long-nosed pliers and bend the tab as necessary.

(4) Repeat (3) above until the 0.008-inch requirement is attained.

Note. Assure proper mating of the shorting switch contacts by observing a definite folow through of the upper contact when the start-stop plunger is released. The contacts of the shorting switch should never be cleaned with an abrasive cleaner. Use a good liquid cleaner.

(5) Check for proper operation of the shorting switch and reproducer lift lever (para 5–33).

5–35. Belt Adjustments

(fig. 5–41)

a. Before attempting any belt adjustments,

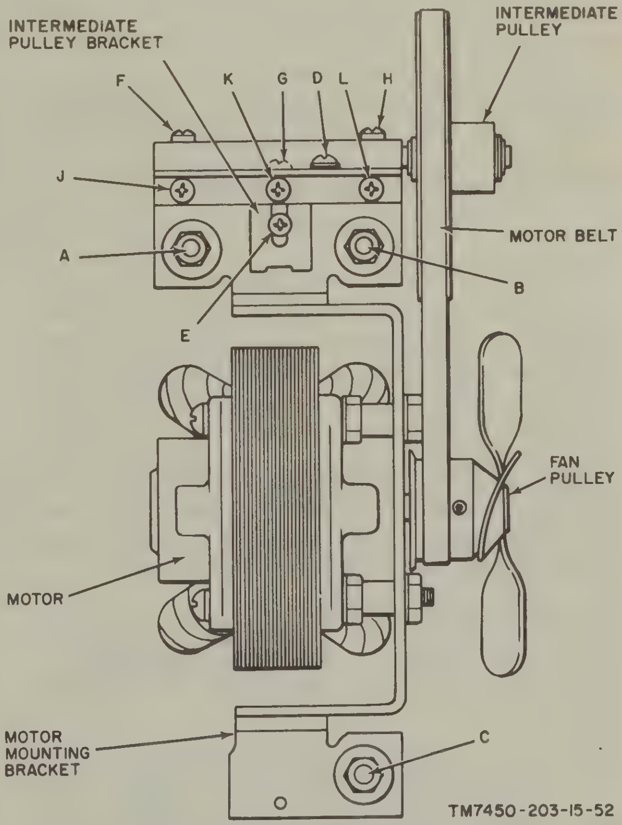


Figure 5–41. Belt adjustments.

check motor mounting studs A, B, and C. The motor mounting bracket should be set so that the motor shaft is parallel with the top deck. Stud A may be adjusted to meet this requirement. After property performing motor and drive belt adjustments, (paras 5-36 and 5-37) if tracking problems are encountered (the motor drive belt will not center on the fan pulley), it may be necessary to adjust stud A.

b. Adjust stud A by loosening the three motor mounting nuts and raising the motor mounting bracket to gain access to the nut of stud A. Loosen the locknut and turn stud A clockwise or counterclockwise as required. Retighten the locknut and the three motor mounting nuts. This operation may need to be repeated several times before the motor drive belts will center on the pulleys.

c. The three motor mounting nuts should be tightened only to the point of preventing the motor mounting bracket from shifting. Excessive compression of the rubber motor mounts will result in excessive motor vibration and hinder belt adjustments.

Note. There is considerable interaction between the motor belt and drive belt adjustments. Continue to adjust both belts until the desired result is obtained.

5-36. Motor Belt Adjustments

(figs. 5-13 and 5-41)

a. Requirements.

(1) With the recorder-reproducer operating, stop the intermediate pulley suddenly by grasping it between thumb and forefinger. The fan should slow down but continue to rotate for 5 or 6 revolutions.

(2) When properly aligned, the belt should not overlap the intermediate pulley and should be centered between the fan pulley setscrew and flange of the fan pulley.

b. Adjustments.

(1) To tighten or loosen the motor belt—

(*a*) Loosen locking screw E, only enough to break the lock.

(*b*) Loosen screw G.

(*c*) If the motor belt is tracking properly, turn screws F and H an equal amount clockwise or counterclockwise (clockwise to tighten the belt, counterclockwise to loosen the belt).

(*d*) Adjust the motor belt to meet the requirements in (1) above, and tighten locking screws G and E.

***Caution:* Excessive tightening of screw G will bend the intermediate pulley bracket. Failure to loosen screw E may bend the intermediate pulley bracket.**

(2) To align the motor belt—

(*a*) Turn screw F clockwise to move the belt toward the fan; turn it counterclockwise to move it away from the fan.

(*b*) Turn screw G clockwise to move the belt away from the fan; turn it counterclockwise to move it toward the fan.

(*c*) Adjust the motor belt to meet the requirement in (2) above.

(*d*) Check for tension and alignment of the motor belt and drive belt after adjusting any screws.

5-37. Drive Belt Adjustment

(fig. 5-41)

a. Requirements.

(1) With the recorder-reproducer operating, stop the drive pulley by exerting thumb pressure on it. The intermediate pulley should stop after 1 or 2 revolutions.

(2) The drive belt, when properly aligned, should not overlap the drive pulley or intermediate pulley.

b. Adjustments.

(1) To tighten or loosen the drive belt—

(*a*) Loosen locking screw D only enough to break the lock.

(*b*) Loosen screw K.

(*c*) If the belt is tracking properly, turn screws J and L an equal amount clockwise to tighten the belt, counterclockwise to loosen it.

(*d*) Adjust the drive belt to meet the requirement in (1) above, and tighten locking screws K and D.

***Caution:* Excessive tightening of screw K will bend the intermediate pulley bracket. Failure to loosen screw D may bend the intermediate pulley bracket.**

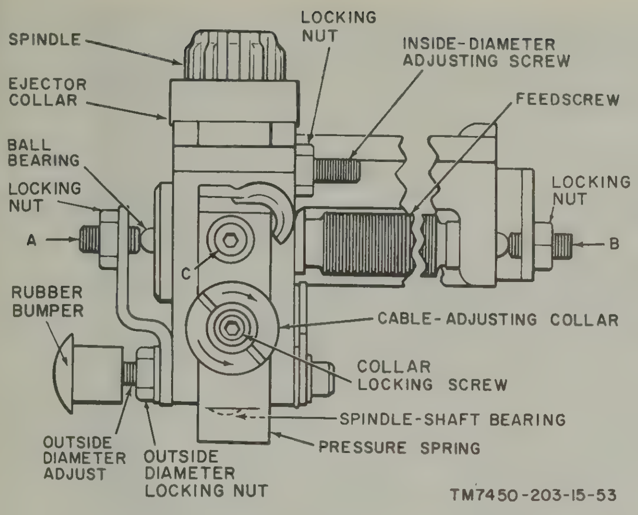


Figure 5–42. Carriage assembly.

(2) To align the drive belt—

(*a*) Turn screw J clockwise to move the belt toward the fan; turn it counterclockwise to move it away from the fan.

(*b*) Turn screw L clockwise to move the belt away from the fan; turn it counterclockwise to move it toward the fan.

(*c*) Adjust the drive belt to meet requirement in (2) above.

(*d*) Check the tension and tracking of both belts.

(*e*) Check locking screws D and E and tighten if necessary.

5–38. Carriage Assembly Adjustments

(fig. 5–42)

a. Requirements.

(1) There must be no binds across the entire length of carriage travel.

(2) The spindle must have no tendency to bind and must maintain a snug (not tight) feeling when rotated across the entire length of the carriage travel.

(3) The spindle must have 0.005-inch vertical movement.

(4) The carriage feed screw must not exhibit evidence of endplay.

(5) The outside diameter stop must stop the travel of the carriage just after the outside edge of the disk has passed out from under the reproducer stylus.

b. Adjustments.

(1) Loosen screw C and the locking screw.

(2) Grasp the spindle with the thumb and forefinger and lift the spindle.

(3) Insert a 0.005-inch feeler gage between the pressure spring and spindle-shaft bearing.

(4) Adjust for 0.005 inch and tighten screw C and locking screw.

(5) Place a disk on the spindle and position the outside diameter of the disk under the recorder stylus.

(6) Remove the rubber bumper.

(7) Loosen the outside diameter locknut.

(8) Adjust the outside diameter adjusting screw as required and tighten the outside diameter locknut.

(9) Replace the rubber bumper.

(10) Move the carriage assembly (fig. 5–43) to the left until the rubber bumper comes in contact with the frame.

(11) The outside diameter of the disk must be aligned with the recorder head stylus.

(12) Loosen A and B screw locknuts.

(13) Adjust A and B screws to remove endplay.

Note. Tighten A and B screws only to the point where the bases of the screws contact the ball bearings.

(14) Tighten A and B screw locknuts.

Note. If the carriage or spindle binds after the carriage adjustments have been performed, adjustment of the short slide rod and/or backspace half-nut gear (fig. 5–43) is necessary. To determine which adjustments are necessary, move the carriage in ¼-inch increments from the inside to outside diameter of carriage travel. Turn the spindle clockwise at ¼-inch increments. If the spindle fails to meet the requirements in *a*(2) above in one area of carriage travel, and meets the requirements in all other areas, adjustment of the short slide rod is necessary. If the spindle fails to meet the requirements of *a*(2) across the entire length of carriage travel, adjustment of the half-nut gear is necessary.

(15) Adjust the short slide rod (para 5–39) and/or half-nut gear (para 5–40).

(16) Assure that the carriage assembly meets the requirements.

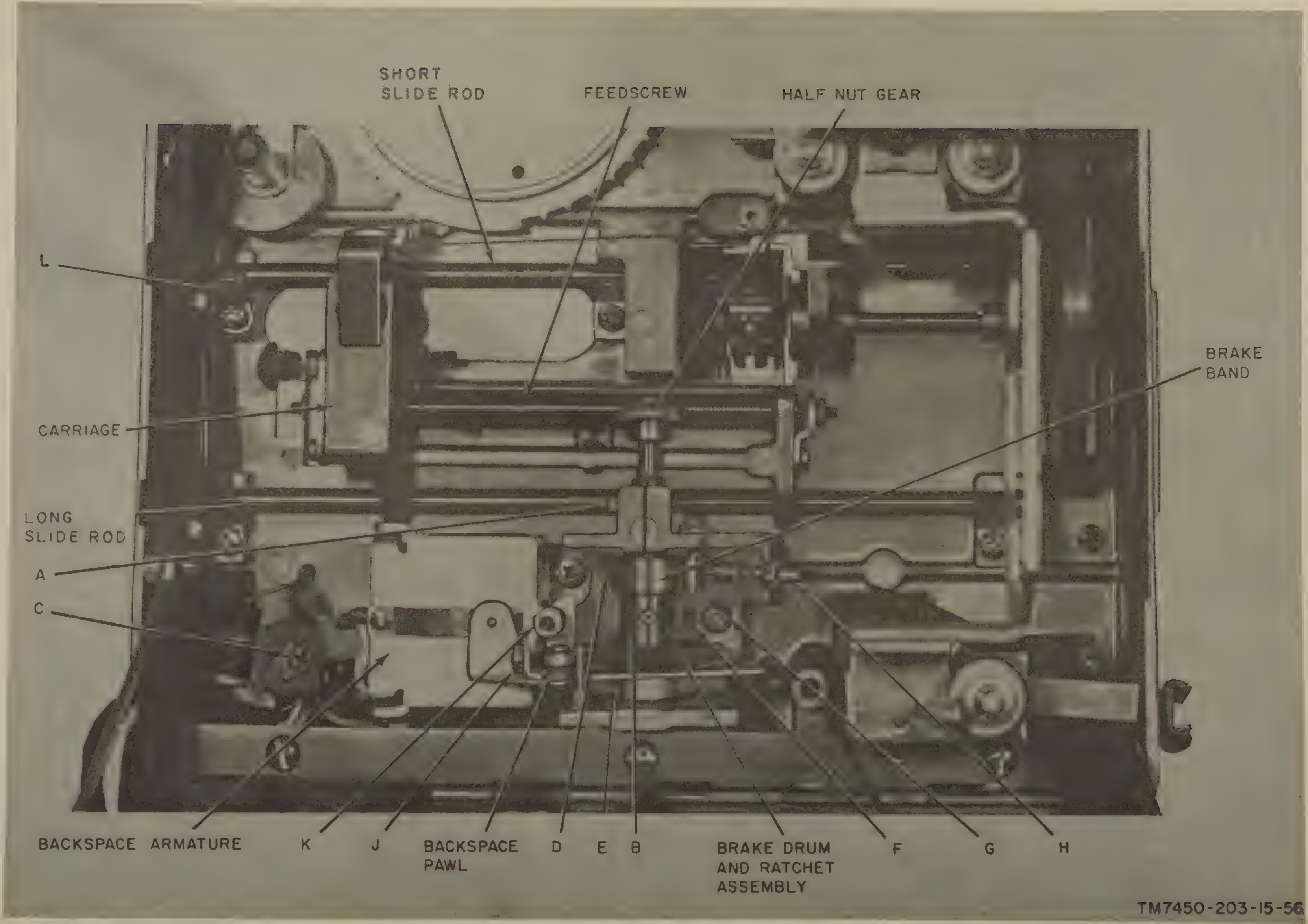


Figure 5–48. Slide rod and backspace assembly adjustments.

5-39. Slide Rod Adjustments

a. Requirements. The short slide rod (fig. 5-45) must be parallel with the long slide rod.

b. Adjustments.

(1) Place the carriage (fig. 5-43) to the outside diameter position (the rubber bumper (fig. 5-42) touches the main frame).

(2) Rotate the spindle (fig. 5-42) clockwise.

(3) If the spindle binds, place the special tool (¼-inch stubby nut driver) on setscrew L (fig. 5-43) and adjust it clockwise. Adjust setscrew L counterclockwise if the spindle is loose.

Note. The spindle must maintain a snug (not tight) feeling across the entire length of carriage travel. If the short slide rod is adjusted to meet the requirements and the spindle continues to bind, refer to paragraph 5-40 and perform half-nut gear adjustments.

(4) Check the requirement in paragraph 5-38*a* to assure proper operation of carriage assembly.

5-40. Half-Nut Gear Adjustments
(fig. 5-43)

a. Requirements. The half-nut gear must be centered on the feed screw. The half-nut gear and the feed screw must mesh without the half-nut gear inducing a bind on the feed screw.

b. Adjustments.

(1) Loosen the A-screw.

(2) Loosen the C- and G-screws.

(3) Loosen the two brakedrum and ratchet assembly setscrews B.

(4) Center the half-nut gear on the feed screw.

(5) Tighten the A-screw for a snug fit around the shaft of the half-nut gear. The half-nut gear must not bind when rotated.

(6) Mesh the feed screw and half-nut gears.

(7) Tighten the C and G mounting screws only to the point where they will hold the backspace assembly in position (do not overtighten).

(8) Tighten or loosen the D and E adjustment screws alternately while feeling the carriage movement over the entire operational limits of the carriage.

***Caution:* If the D and E adjustment screws are tightened, loosen the F-screw a like amount. Failure to do this will result in stripped threads and improper operation of the backspace assembly.**

(9) Tighten the F-screw and recheck the C and G mounting screws.

(10) Check for freedom of spindle movement by turning the spindle in the direction of disk rotation (clockwise). When the C-, D-, E-, F-, and G-screws are properly adjusted, there should be no binding in the carriage and no spindle movement.

(11) Align the brakedrum and ratchet assembly with the backspace pawl, and tighten the two brakedrum and ratchet assembly setscrews.

5-41. Backspace Pawl Adjustments
(fig. 5-43)

a. Requirements.

(1) The backspace pawl must engage the brakedrum and ratchet assembly when the backspace armature is energized.

(2) The backspace pawl and brake drum and ratchet assembly must disengage when the backspace armature is deenergized.

b. Adjustments.

(1) Turn screw J to give minimum but positive clearance between ratchet and backspace pawl.

(2) Move the carriage manually through its full travel to be sure the pawl and ratchet do not make contact.

(3) Manually operate the backspace armature.

(4) When the armature is released slowly, the backspace pawl should ride up over one tooth of the ratchet, fall down into the next space between teeth, then pull away and position itself for the next operation.

(5) Turn screw K clockwise for more backspace armature throw. Turn it counterclockwise for less throw.

5-42. Brake Band Adjustments
(fig. 5-43)

a. Requirements. The brake band must exert 45 to 56 ounces of pressure on the carriage assembly as measured with the dial indicating push-pull scale and the tension gage tip assembly.

b. Adjustments.

(1) Attach the tension gage tip assembly to the ejector collar (fig. 5-42).

(2) Place the carriage to the extreme left (outside diameter) position.

(3) Attach the dial-indicating, push-pull scale to the tension gage tip assembly, move the carriage from left to right, and note the amount of pressure needed to perform the operation.

(4) Adjust nut H as required to meet the requirement.

Note. The dial-indicating, push-pull scale should be held on the same plane and straight with the direction of carriage travel. Failure to do this will result in erroneous dial indications.

5-43. Index and Carriage Control Mechanism

a. The index and carriage control mechanism (fig. 5-44) is comprised of the index sprocket, index cable, and main control shaft.

b. The index cable connects the main control shaft, carriage, and index sprocket. It must be taut and free from binds to provide for the correct functioning of these components in relation to each other.

c. Considerable interaction exists in the index and carriage control mechanism. When making adjustments to any item of the index and carriage control mechanism, always check the requirements of all related items. Refer to requirements of paragraph 5-44, 5-45, and 5-46.

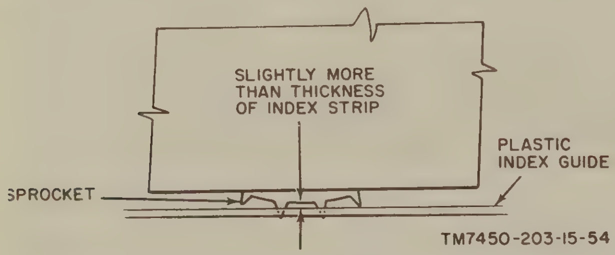


Figure 5-44. Index sprocket positioning.

5-44. Index Sprocket Adjustments
(fig. 5-2)

a. Requirements. With the carriage at the inside diameter position of the disk, the large red tooth on the index sprocket must form a 90° angle in relation to the slot in the main frame as shown, and must not exhibit any tendency to bind.

b. Adjustments.

(1) Position the carriage against the inside diameter stop (extreme right of carriage travel).

(2) Lock the carriage in this position by placing a wooden block $3\frac{1}{16}$ inches long between the frame and the carriage.

(3) Slightly loosen the collar locking screw (fig. 5-42) and rotate the cable adjusting collar (fig. 5-23) to properly position the index sprocket.

(4) Tighten the collar locking screw (fig. 5-42).

(5) Slightly loosen the three A-screws (fig. 5-22) and position the index sprocket as shown in figure 5-44.

(6) Tighten the three A-screws.

(7) Adjust setscrew C to center vertically the index sprocket in the slot in the main frame.

(8) Remove the wooden block and check the index sprocket for compliance with the requirement.

5-45. Main Control Shaft Adjustments
(fig. 5-45)

a. Requirements. The main control shaft must perform smoothly and have no tendency to bind.

b. Adjustments.

(1) Perform the procedures in paragraph 5-15*a*(2) and (3).

(2) Loosen the rear pulley setscrew.

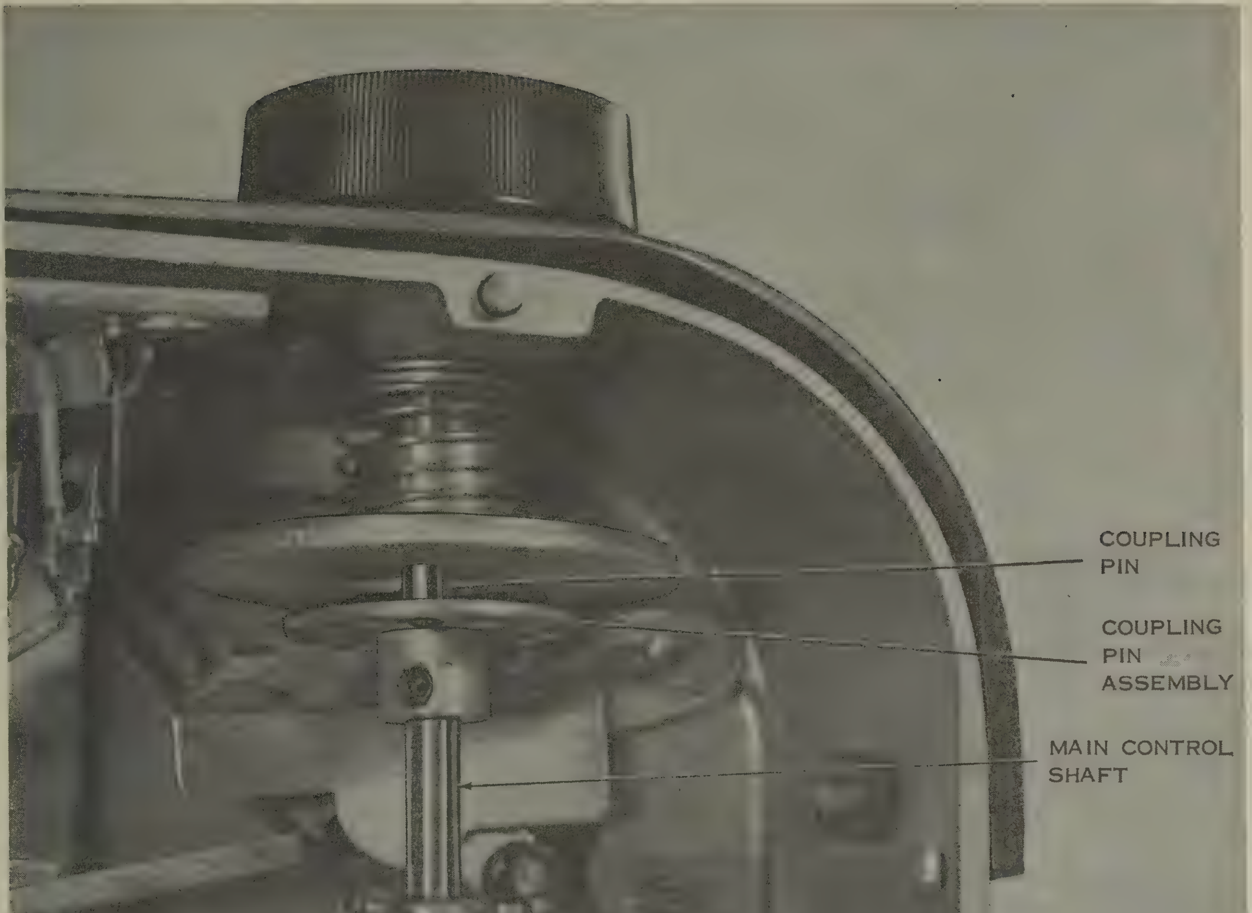


Figure 5-45. Main control shaft adjustments.

(3) Move the main control shaft forward to remove all end play.

(4) Tighten the rear pulley setscrew.

(5) Loosen the spring anchor collar setscrew (fig. 5-28).

(6) Place a 0.007-inch feeler gage between the front pulley and the spring anchor collar.

(7) Adjust for 0.007 inch and tighten the spring anchor collar setscrew.

(8) Insert a 0.015-inch feeler gage between the coupling disk and the shaft extension.

(9) Loosen the coupling disk setscrew, adjust for 0.015 inch and tighten the setscrew.

(10) Move the RECORD-LISTEN lever to the RECORD position.

(11) Insert 0.015-inch feeler gage between the coupling disk and coupling pin of the shaft extension.

(12) Adjust for 0.015 inch by bending the prongs of the fork assembly.

(13) Reverse the procedures in paragraph 5-15*a*(2) and (3).

(14) Check the carriage control mechanism to insure proper operation.

5-46. Index Cable Adjustments

(fig. 5-45)

a. Requirements. The index cable must be taut and free from binds.

b. Adjustments.

(1) Perform the procedures in paragraph 5-44*b*(1) through (4).

(2) Perform the procedures in paragraph 5-15*a*(2) and (3).

(3) Tighten or loosen the index cable by adjusting the slotted stud.

(4) If the index cable catches on the teeth of the index sprocket, or if a bind occurs because of the cable riding against the edge of the pulley groove, bend the left guide pulley bracket (fig. 5-22) to obtain 1/32 inch clearance of the index cable.

(5) Insert a 0.010-inch feeler gage between the front pulley arm and the stop pin (fig. 5-25).

(6) Adjust for 0.010 inch by adjusting the slotted stud.

(7) Reverse the procedures in paragraph 5-15*a*(2) and (3).

(8) Remove the wooden block and check the carriage control mechanism for proper operation.

Section IV. TESTING PROCEDURES

5-47. General

a. This section describes the tests required for determining proper operation of the AN/TNH-16.

b. A troubleshooting chart and voltage and resistance charts are included to aid in troubleshooting.

5-48. Operational Test

a. Test Equipment and Materials.

(1) Oscillator, Audio TS-382(*)/U (TM 11-6625-261-12).

(2) Attenuator, decade (FSN 6625-201-8779).

(3) Voltmeter, Meter ME-30A/U (TM 11-6625-320-12).

b. Test Connections and Conditions.

(1) *TS-382(*)/U.* Place the OSC switch to ON.

(2) *Decade attenuator.* Place the controls to midposition.

(3) *ME-30A/U.*

(*a*) Set the range selector switch to the lowest scale capable of reading the voltages indicated in *c* below.

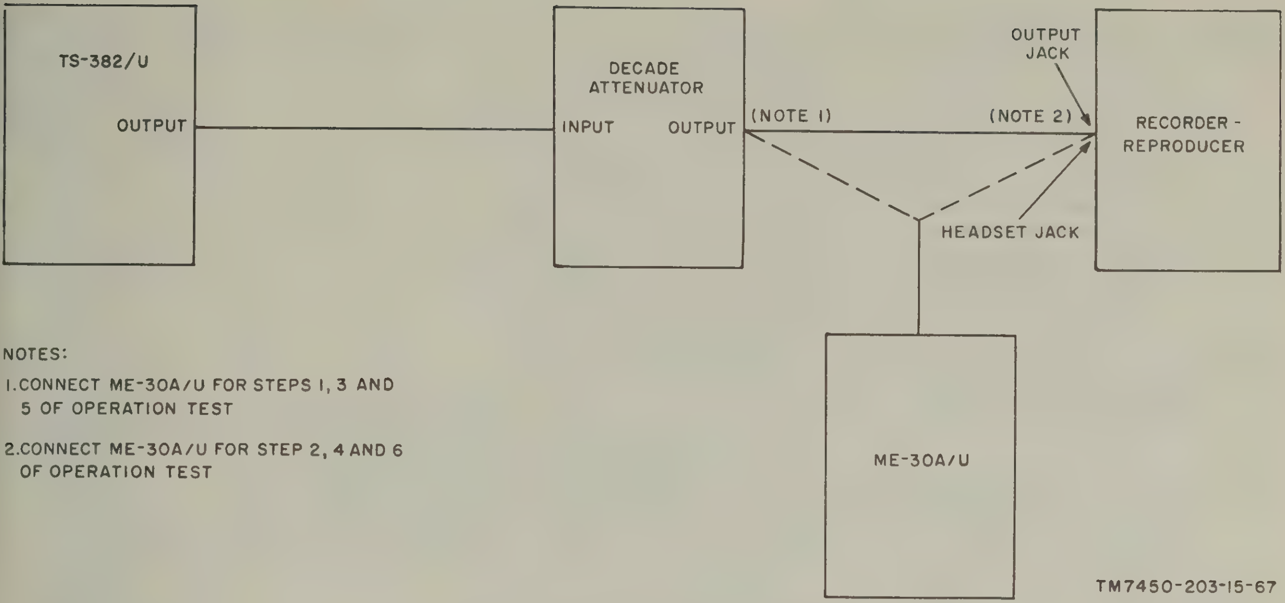
(*b*) Set the power switch to ON.

(4) *Recorder-reproducer.*

(*a*) Turn the recorder-reproducer on-off-volume and tone controls fully counterclockwise.

(*b*) Turn the RECORD VOLUME control fully clockwise.

(*c*) Place a disk on the spindle, and



NOTES:

1. CONNECT ME-30A/U FOR STEPS 1, 3 AND 5 OF OPERATION TEST
2. CONNECT ME-30A/U FOR STEP 2, 4 AND 6 OF OPERATION TEST

TM7450-203-15-67

Figure 5–46. Operational test setup.

with the scanning knob, move the disk to the inside diameter position.

(5) *Connections.* Interconnect the equipment as shown in figure 5–46. Allow a 1-minute warmup before proceeding with the tests.

c. Procedure.

Step No.	*Control settings* *Test equipment*	*Equipment under test*	*Test procedure*	*Performance standard*
1	*TS–382(*)/U* *a.* Adjust the frequency to 300 cps. *b.* Adjust the OUTPUT LEVEL control to indicate 10 ±1 millivolts on the ME–30A/U.	Place the RECORD-LISTEN lever to the RECORD position.	Record approximately 20 revolutions on the disk and return the RECORD-LISTEN lever to the center (neutral)	
2	*a.* Disconnect the ME–30A/U from the decade attenuator. *b.* Disconnect the decade attenuator from the recorder-reproducer. *c.* Connect the ME–30A/U to the recorder-reproducer.	*a.* Position the disk at the start of the recording made in step 1. *b.* Place the RECORD-LISTEN lever in the LISTEN position. *c.* Return the RECORD-LISTEN lever to the neutral position after obtaining the performance standard indication.		The ME–30A/U should indicate 1.2 to 2.0 volts rms (root-mean-square).
3	Reconnect the equipment as in step 1. *TS–382(*)/U* Adjust the frequency to 1000 cps. Adjust the OUTPUT LEVEL control to indicate 3 ±1 millivolts on the ME–30A/U.	*a.* Position the disk to an unrecorded area close to the end of the recording made in step 1. *b.* Place the RECORD-LISTEN lever in the RECORD position.	Record approximately 20 revolutions on the disk and return the RECORD-LISTEN lever to the center (neutral) position.	

Step No.	Control settings: Test equipment	Control settings: Equipment under test	Test procedure	Performance standard
4	*a.* Disconnect the ME-30A/U from the decade attenuator. *b.* Disconnect the decade attenuator from the recorder-reproducer. *c.* Connect the ME-30A/U to the recorder-reproducer.	*a.* Position the disk as at the start of the recording made in step 2. *b.* Place the RECORD-LISTEN lever in the LISTEN position. *c.* Return the RECORD-LISTEN lever to the neutral position after obtaining the performance standard indication.		The ME-30A/U should indicate 1.2 to 2.2 volts rms.
5	Reconnect the equipment as in step 1. *TS-382(*)/U* Adjust the frequency to 3000 cps. Adjust the output control to 3 ±1 millivolt.	*a.* Position the disk to an unrecorded area on the disk close to the end of the recording made in step 3. *b.* Place the RECORD-LISTEN lever in the RECORD position.	Record approximately 20 revolutions on the disk and return the RECORD-LISTEN lever to the center (neutral) position.	
6	*a.* Disconnect the ME-30A/U from the decade attenuator. *b.* Disconnect the decade attenuator from the recorder-reproducer. *c.* Connect the ME-30A/U to the recorder-reproducer.	*a.* Position the disk as at the start of the recording made in step 4. *b.* Place the RECORD-LISTEN lever in the LISTEN position. *c.* Return the RECORD-LISTEN lever to the neutral position after obtaining the performance standard indication.		The ME-30A/U should indicate 0.7 to 1.2 volt rms.

5-49. Troubleshooting Chart

	Trouble	Probable cause	Remedy
1	Warbling sound	Poor disk drive	*a.* Adjust belts (para 5-36). *b.* Adjust start-stop yoke (para 5-32). *c.* Clean pressure roller and drive roller (fig. 5-39).
2	Crosstalk	*a.* Groove too wide	*a.* Adjust compensator spring tension (para 5-25).
		b. Uneven groove formation	*b.* Adjust half-nut mesh (para 5-40).
3	No drive; complete drive system failure.	*a.* No power to motor	*a.* Adjust switch blades at RECORD-LISTEN lever (para 5-34).
		b. Defective motor	*b.* Replace motor (para 5-12).
4	Disk does not feed out or stops feeding out at a certain point.	*a.* Loose brake band	*a.* Adjust brake band (para 5-42).
		b. Loose setscrew on drive roller (fig. 5-39).	*b.* Tighten setscrews.
		c. Carriage binds in its travel	*c.* Relieve binds. Carriage must move freely for full length of travel.
5	Complete power failure	*a.* Blown fuse (fig. 2-2)	*a.* Replace fuse. If new fuse blows, troubleshoot cause of excessive current drain.
		b. Defective power cord	*b.* Replace cord.
		c. Defective power switch	*c.* Replace on-off-volume control and switch assembly.

	Trouble	*Probable cause*	*Remedy*
6	Fuse blows	*a.* Shorted start-stop coil (fig. 5–9)	Replace items as necessary.
		b. Shorted changeover coil (fig. 5–19).	
		c. Shorted motor winding.	
		d. Shorted rectifier diode.	
		e. Shorted filter capacitor (fig. 5–19).	
7	Disk won't stop	*a.* Open start-stop coil (fig. 5–39)	*a.* Replace coil.
		b. Binding start-stop plunger (fig. 5–39).	*b.* Reposition start-stop assembly (para 5–8).
		c. Misadjusted start-stop resistor shunting contacts on the start-stop assembly.	*c.* Adjust contacts (fig. 5–9).
		d. Bind in pressure roller and eccentric assembly (fig. 5–8).	*d.* Clean and lubricate where necessary. If binding is not relieved, replace pressure roller.
8	Disk won't start	*a.* Weak or broken pressure roller spring (fig. 5–8).	*a.* Replace.
		b. Binding plunger	*b.* Same as 7*b*.
		c. Same as 7*d*	*c.* Same as 7*d*.
9	Hum in recording	*a.* Poor connection at input receptacle.	*a.* Clean receptacle contacts.
		b. Weak or open filter capacitor	*b.* Replace.
		c. Shorted tube	*c.* Replace.
		d. Stray ac field	*d.* Reverse ac plug in receptacle.
		e. Poor shield connection at input receptacle or changeover relay.	*e.* Resolder connections. Redress leads.
10	Low output	*a.* Weak tubes or other components	*a.* Troubleshoot amplifier and replace defective components.
		b. On-off-volume control set too low	*b.* Adjust.
		c. Weak stenomask element	*c.* Replace.
11	Weak playback	*a.* Weak reproducer cartridge	*a.* Replace.
		b. Chipped or missing stylus	*b.* Replace.

5–50. Resistance Chart

Use Multimeter TS–352B/U, to check the following resistances. Use TS–352B/U on the lowest applicable scale. Measure resistances with respect to chassis.

Component	*Terminal*	*Resistance (ohms)*	*Remarks*
V1	1	620K	See note 1.
	2	6.8 meg	
	3	0	
	4	6	
	5	2.5 meg	
	6	2.5 meg	
	7	4.7K	
V2	1	3 meg	See note 1.
	2	300K	
	3	2,400	
	4	15	
	5	32	
	6	2.5 meg	
	7	0	
	8	2,400	
V3	1	150	See note 1.
	2	390K	
	3	90	
	4	39	
	5	390K	
	6	2 meg	
	7	2 meg	
V4	1	150	See note 1.
	2	390K	
	3	140	
	4	90	
	5	390K	
	6	2 meg	
	7	2 meg	
C15–1	Across each capacitor	2.4 meg	See note 2.
C15–2		2.4 meg	
C15–3		2.4 meg	
C15–4		2.3 meg	
Start-stop coil (fig. 5–39).	Across coil	1,190	See note 3.
K–1		4,000	See note 4.
Backspace coil (fig. 5–18).		1,000	See note 5.

Component	*Terminal*	*Resistance (ohms)*	*Remarks*
Motor (fig. 5-12, 5-16).	-------------	68	See note 6.

NOTES

1. Values are approximate and may vary by 30 percent in different recorder-reproducers.
2. These checks are made with the RECORD-LISTEN lever in the RECORD position and a jumper across diode CR1 (fig. 5-30).
3. Check at the terminals on the upper frame.
4. Check at the coil terminals with the RECORD-LISTEN lever in the neutral position.
5. Check at the coil leads on the terminal strip.
6. Check across the motor leads with the RECORD-LISTEN lever in the neutral position.

5-51. Voltage Chart

a. Use Multimeter TS-352B/U to check the voltages in *b* below. Use it on the lowest applicable scale.

b. Make the checks with the RECORD-LISTEN lever in the RECORD position. Make the checks between the indicated terminal and pin 9 of J1 or the chassis.

Tube	*Terminal*	*Voltage*
V1	1	0 dc
	2	0 dc
	3	12 ac
	4	0 ac
	5	45 dc
	6	36 dc
	7	1.5 dc
V2	1	100 dc
	2	0 dc
	3	1.2 dc
	4	12 ac
	5	25 ac
	6	85 dc
	7	0 dc
	8	1.2 dc
V3	1	9.8 dc
	2	0 dc
	3	68 ac
	4	32 ac
	5	0 dc
	6	112 dc
	7	126 dc
V4	1	9.8 dc
	2	0 dc
	3	100 ac
	4	68 ac
	5	0 dc
	6	112 dc
	7	126 dc

CHAPTER 6

FUNCTIONING OF EQUIPMENT

6-1. Block Diagram Analysis

(fig. 6-1)

a. The recorder circuits convert sound energy applied to a microphone into electrical energy, amplify the resultant signal and couple it to a recorder head that converts the electrical energy into mechanical energy to emboss a disk. A general description of the recorder circuits is given in *c* below.

b. The reproducer circuits convert mechanical energy into electrical energy, using a reproducer head, amplify the resultant signal, and couple it to a loudspeaker that converts the electrical energy into sound energy. A general description of the reproducer circuits is given in *d* below. A detailed analysis of the recorder circuits is given in paragraph 6-12.

c. Each recorder head embosses a groove in a plastic disk with a permanent diamond-tipped stylus. The groove starts at the center of the disk and spirals toward the outside edge of the disk. The pressure of the recorder head stylus on the disk determines the width of the groove in the disk. When voice currents pass through the coil in the recorder head, the stylus moves in accordance with the magnitude of the current to modulate the groove.

d. The reproducer head moves toward the outside edge of the disk at the same speed at which the recorder head moves. This makes

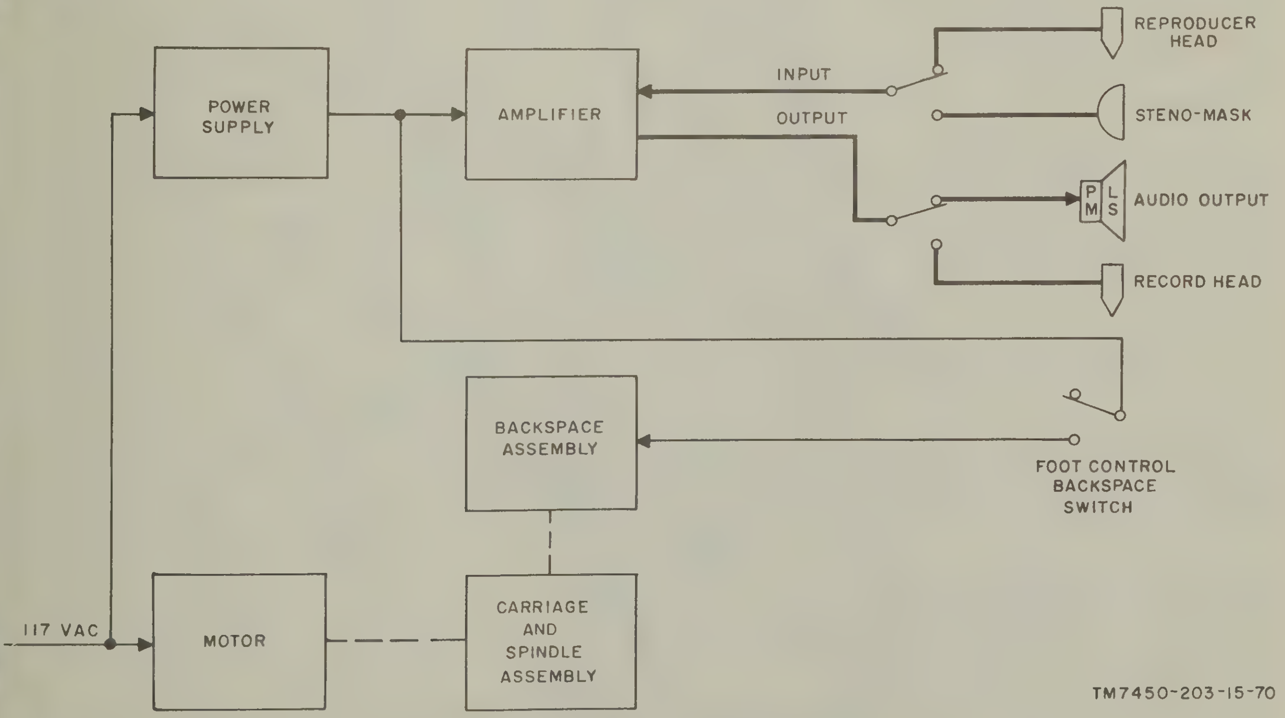


Figure 6-1. Block diagram.

it possible to adjust the position of the reproducer head so that it trails behind the recorder head during monitoring. As the reproducer head stylus moves in the embossed grooves of a recorded disk, voice voltages proportional to the modulation of the grooves are generated in the input stage of the recorder-reproducer amplifier. These voltages are amplified by the four-stage amplifier and coupled by the output transformer to the headset or stenomask.

6–2. Mechanical Functioning

Mechanical functioning is organized into the following: main drive system, record head positioning, reproducer head positioning, compensator assembly, carriage feed disk positioning, and backspace mechanism.

6–3. Main Drive System

(fig. 6–2)

a. The main drive system consists of a syn-

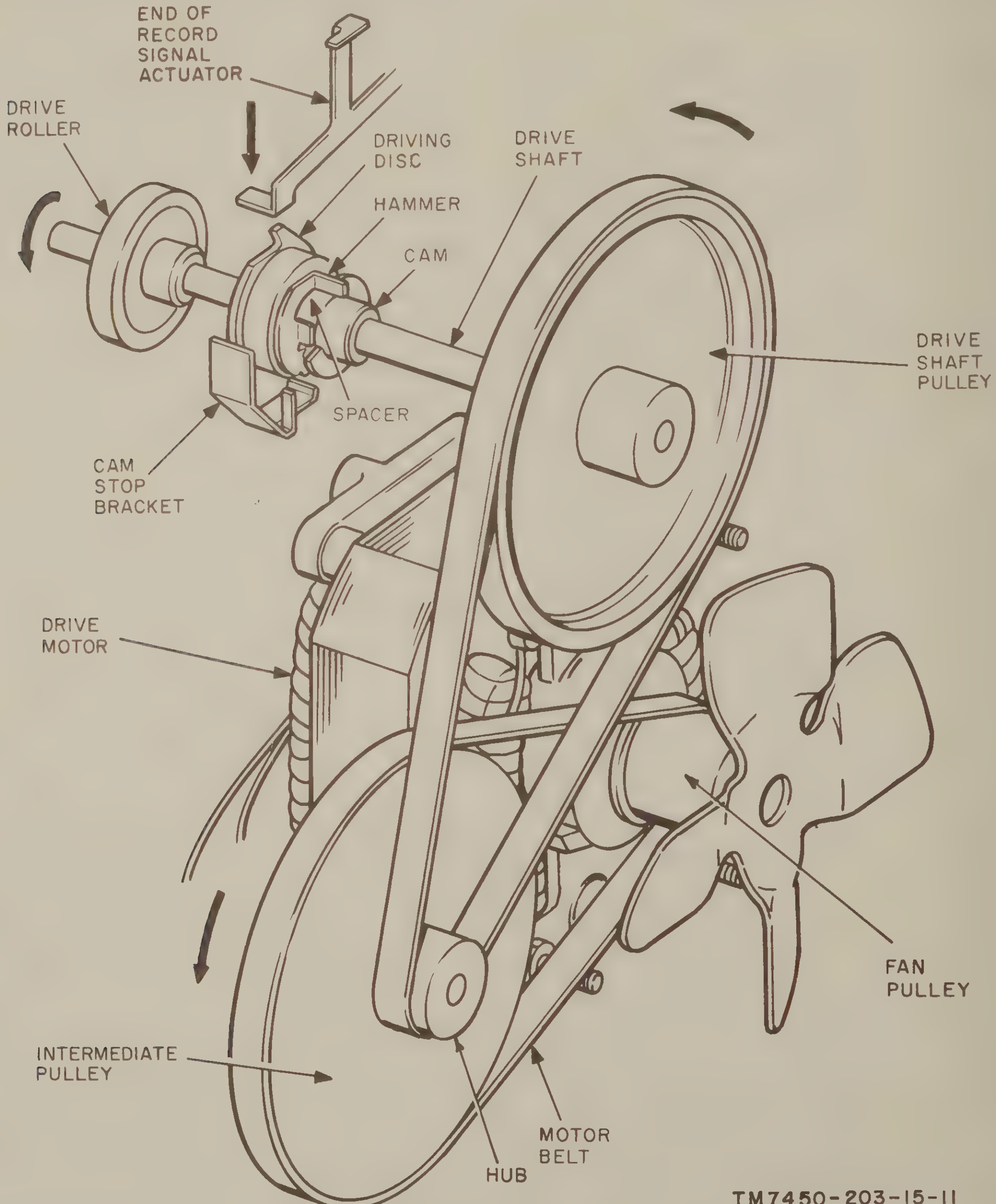


Figure 6–2. Main drive system.

chronous motor with a fan pulley mounted on its shaft. Power is belt-coupled from the fan pulley to the large diameter of the intermediate pulley. The hub of the intermediate pulley is belt-coupled to the drive shaft pulley. The changing diameters between the fan pulley, intermediate pulley, and drive shaft pulley result in the correct speed of the main drive shaft. The drive shaft contains the end-of-record-signal (EORS) mechanism and a rubber-covered disk drive roller.

b. The end-of-record-signal mechanism consists of a driving disk with a spring-loaded hammer, a spacer, and a cam. The cam is fastened to the drive shaft by a setscrew and rotates with the shaft at all times. The driving disk and spacer are positioned on the drive shaft by a snapring washer and both are free to rotate on the shaft. Because of spring pressure of the hammer against the spacer, sufficient friction is maintained to cause the driving disk and spacer to rotate with the drive shaft.

c. When the end-of-record-signal actuator drops off the end of the recording disk, it hooks and holds the driving disk from rotating with the drive shaft. The rotating cam contacts the end tab of the spring-loaded hammer, and lifts it outward. The end tab of the hammer rides on the cam until the cutaway section of the cam comes around under the tab of the hammer. The spring-loaded hammer drops sharply against the spacer and creates a clicking noise, which is repeated with each revolution of the cam.

Note. The loudness of the clicking noise is fixed and cannot be adjusted.

d. When the actuator is disengaged from the driving disk while the hammer is still lifted, the driving disk will start rotating, but will stop when the lifted hammer contacts the cam stop bracket. As the cam rotates and the hammer drops, the driving disk becomes free to rotate with the drive shaft.

6–4. Record Head Positioning

(fig. 6–3)

a. The recorder lift lever and pressure roller assembly rest on the main control cam. When the RECORD–LISTEN lever is in the RECORD position, the main control cam moves forward, and lowers the record head and the end-of-record-signal actuator onto the disk. The pressure roller assembly is also allowed to pivot, placing the pressure roller and the reproducer head into the disk. With no accessories (foot switch or stenomask) connected, the start–stop solenoid is deenergized, and mechanical action of the pressure roller eccentric will force the pressure roller down, and compress the disk between it and the rotating drive roller (fig. 5–39), causing the disk to rotate.

b. With the foot control connected, the start–stop solenoid normally is energized and the disk is stopped. Depressing the start–stop switch on the foot control deenergizes the solenoid. The solenoid plunger is mechanically connected to the pressure roller eccentric arm assembly and the outward movement of the plunger lowers the pressure roller onto the disk, forcing the disk against the drive roller and the disk rotates.

c. The action is the opposite when the stenomask is connected. The solenoid is normally deenergized and the disk rotates. When the start-stop button on the stenomask is depressed, the pressure roller is lifted and the disk stops.

d. A changeover switch actuator mounted on the main control cam actuates the changeover switch for each mode. For the electrical function of the changeover switch, refer to paragraph 6–11.

6–5. Reproducer Head Positioning

(fig. 6–3)

a. The reproducer head is a ceramic pickup mounted on a tone arm assembly (fig. 5–3) and counterweight having both lateral and vertical movement.

b. Vertical movement allows the stylus pressure (reproducer head pressure) to be held constant by a bias spring.

c. To permit positioning the edge of the disk under the reproducer stylus while the RE-

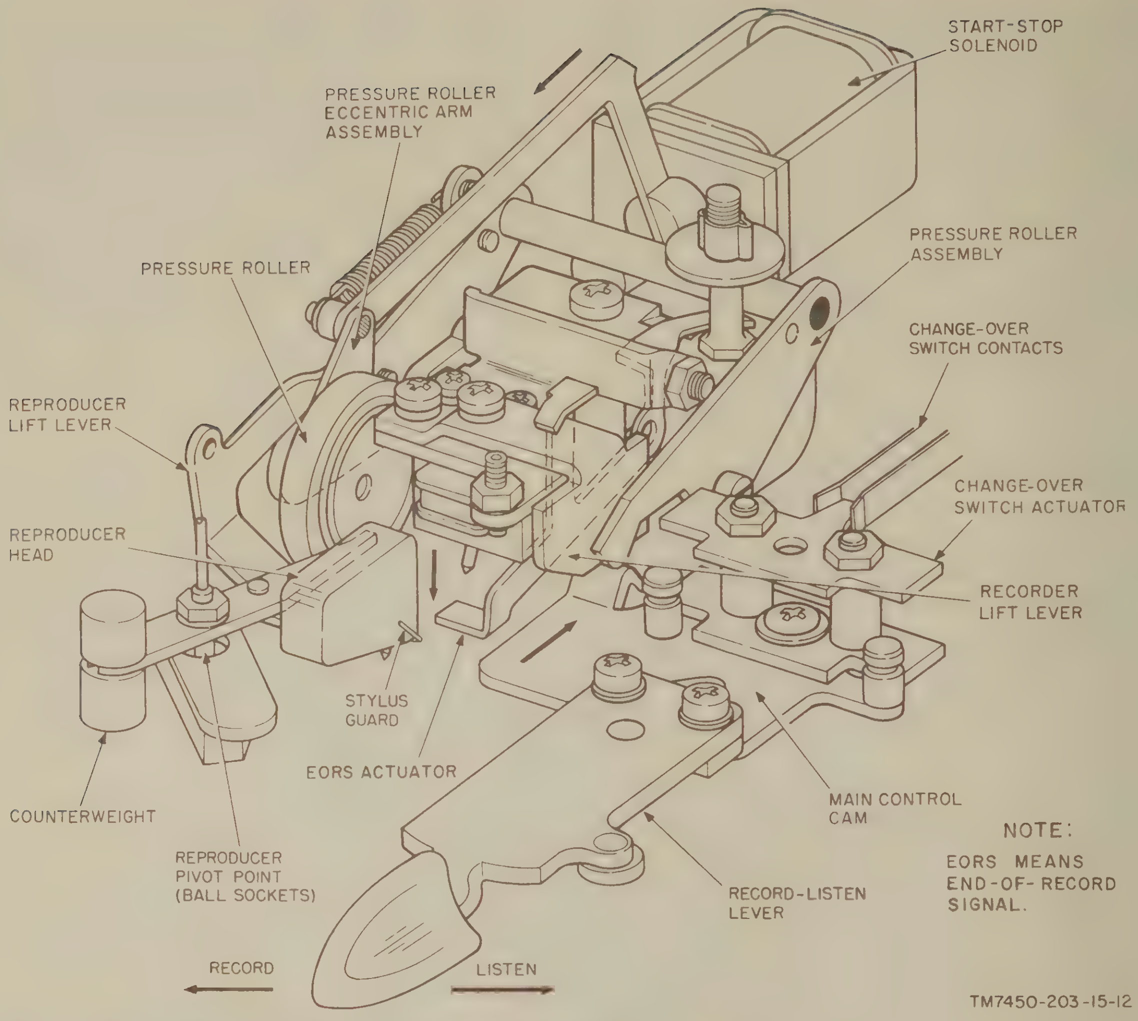


Figure 6-3. Recorder-reproducer head positioning.

CORD–LISTEN lever is in the LISTEN position, the reproducer head is fitted with a stylus guard. The guard is mounted by one of the recorder head mounting screws which fasten the reproducer head to the tone arm counterweight assembly. It is positioned level with the top of the cone-shaped stylus point, and must not touch the reproducer housing or stylus. When positioning the reproducer head on the disk, the edge of the disk contacts the guard and lifts the reproducer head a sufficient amount to permit the disk edge to contact the cone-shaped point of the stylus, and causes it to slide onto the surface of the disk.

d. The lateral movement of the reproducer head is controlled by an opening in the reproducer guide through which the tone arm extends. The width of the opening provides proper lateral freedom. The bottom of the opening is shaped in the form of an arrowhead to center automatically the reproducer head when the RECORD–LISTEN lever is in the neutral position. Thus, when the RECORD–LISTEN lever is placed in the LISTEN position, the reproducer head may shift either left or right to engage the groove on the disk. The reproducer stylus is positioned to contact the rotating disk at a point between the front and rear compensator rollers, and results in a thrust from the rotating disk against the reproducer stylus in a direction directly toward the front of the recorder-reproducer. The ball socket (pivot point of the reproducer for lateral and vertical movement) is located to the left of the assembly, and the thrust, caused by disk rotation against the reproducer stylus, causes the reproducer head to pivot toward the outside diameter of the disk. This action improves the ability of the stylus to enter and leave a recorded band of grooves.

e. When the RECORD–LISTEN lever is in the LISTEN position, the main control cam moves to the rear, allows the pressure roller assembly to pivot, and places the pressure roller and reproducer head on the disk. The recorder lift lever, which rides on the main control cam, is lifted slightly and held by the movement of the main control cam to the rear, and prevents the record head from being placed on the disk. The start–stop solenoid operation and changeover switch actuation is identical with that outlined in paragraph 6–4.

6–6. Compensator Assembly

(fig. 6–4)

The compensator assembly compensates for various thicknesses of recording disks, to provide proper groove forming when recording and proper playback of the disk. The rear rollers are spring-loaded and support the disk under the record stylus. When the pressure roller is lifted, the rollers raise the disk off the

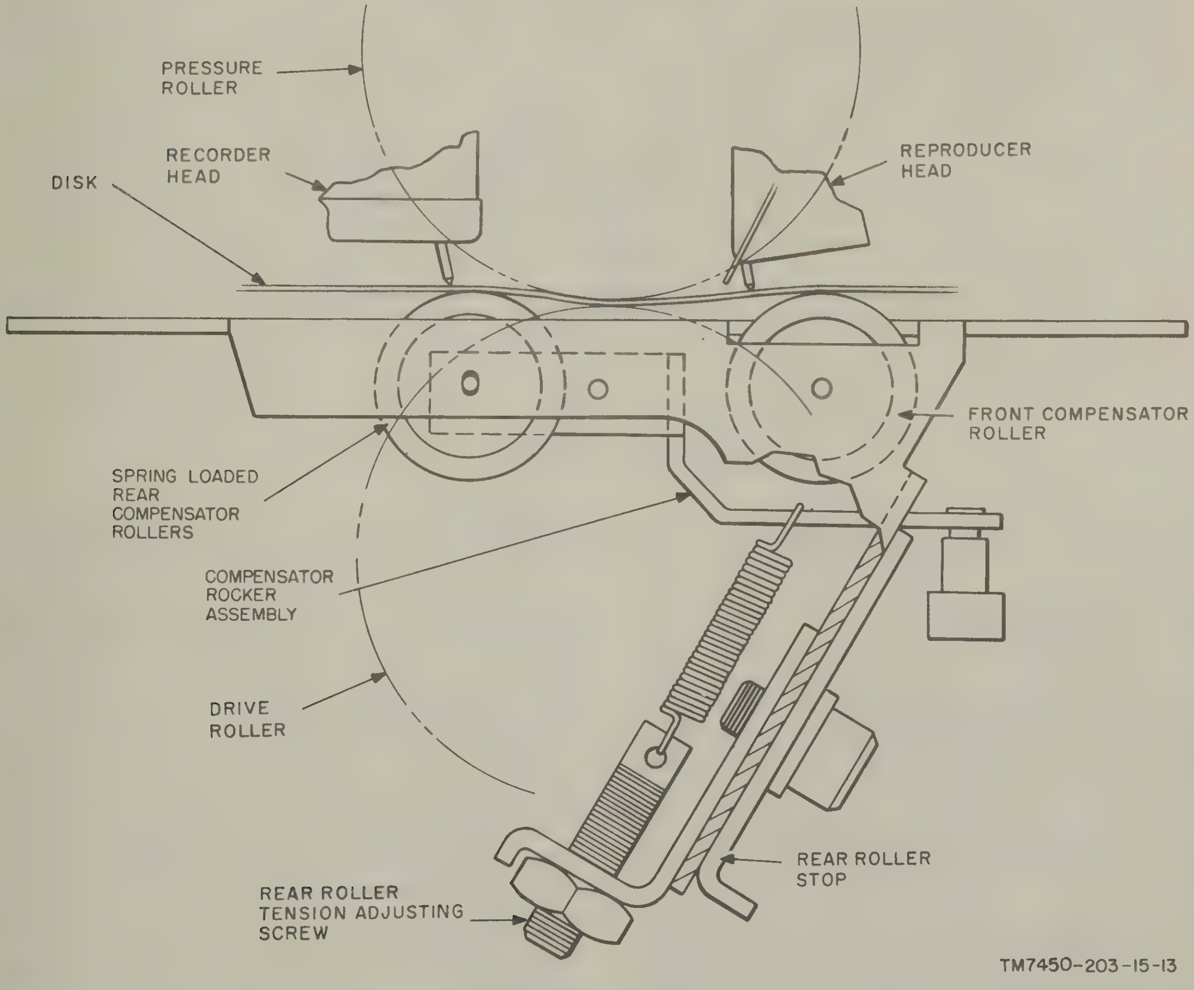


Figure 6–4. Compensator assembly.

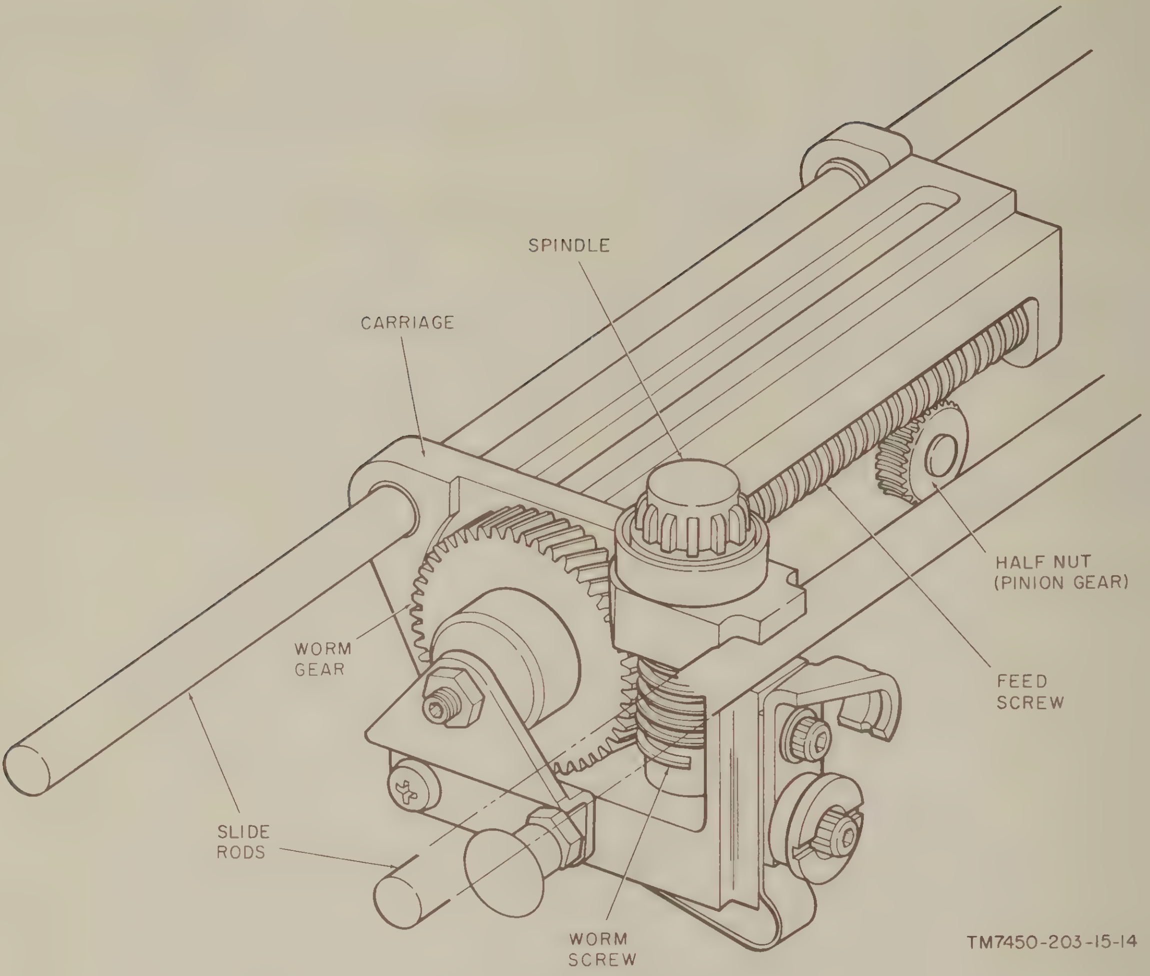


Figure 6-5. Carriage feed.

drive roller. The front compensator roller supports the disk under the reproducer stylus.

6-7. Carriage Feed
(fig. 6-5)

a. As the disk rotates, a serrated spindle at the disk center also rotates, and drives a worm attached to the spindle shaft. The worm is in mesh with a worm gear, which is press fit, on one end of the feed screw. Rotation of the worm rotates the worm gear, which rotates the feed screw.

b. The serrated spindle, worm, worm gear, and feed screw are mounted on a movable carriage. The carriage assembly is mounted on and moves along two stainless steel slide rods, which are rigidly mounted to the main frame. The feed screw meshes with the half-nut (pinion gear) on the backspace assembly. As the feed screw rotates, the carriage assembly feeds out from the half-nut.

6-8. Disk Positioning
(fig. 6-6)

a. A scanning knob permits positioning the carriage assembly manually to any desired position within the recorded area. The disk-positioning mechanism consists of the scanning knob, coupling-pin assembly, coupling disk, main control shaft, index sprocket, and index cable.

b. The scanning knob movement is shaft-coupled to the coupling-pin assembly. The cou-

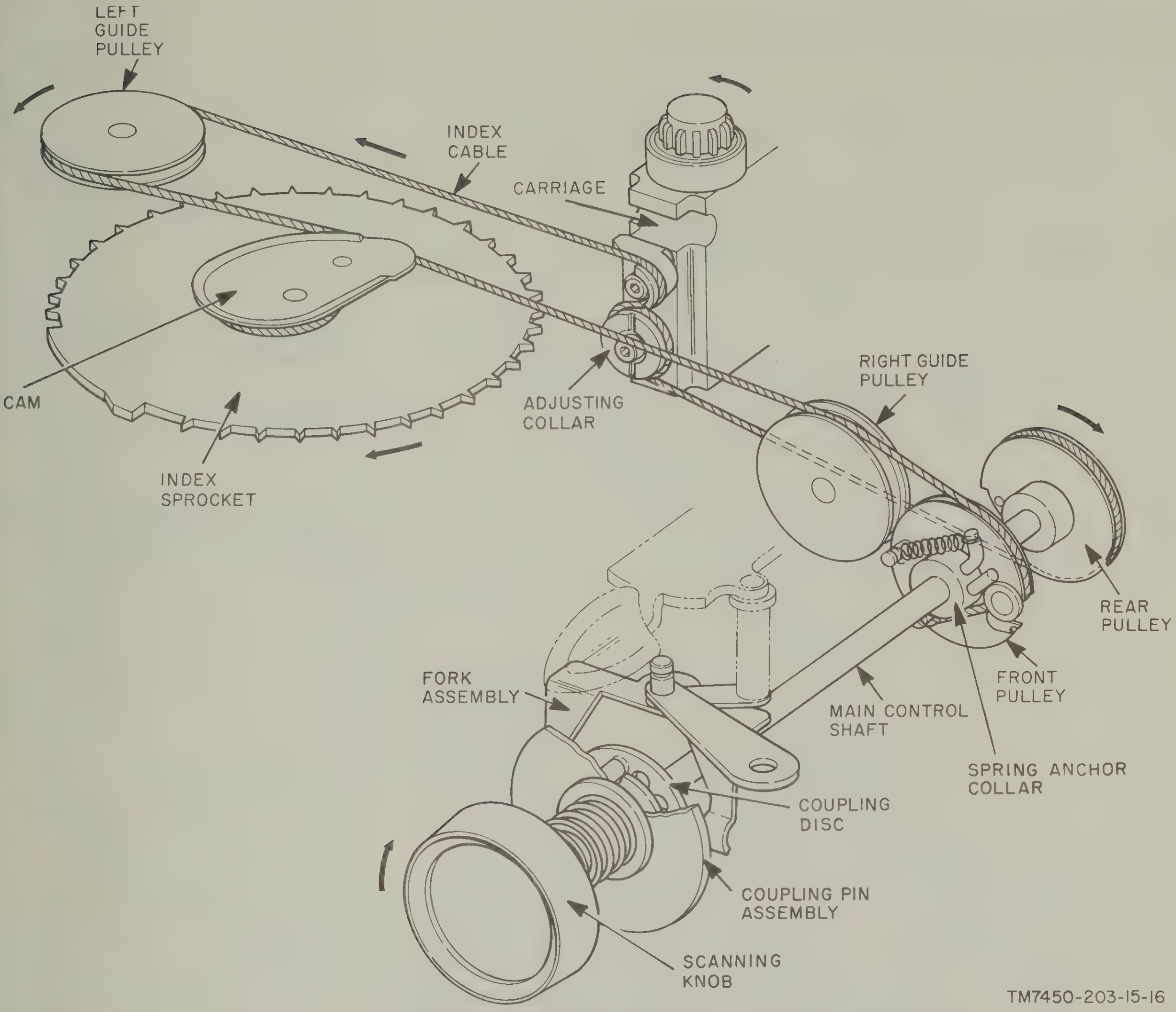


Figure 6-6. *Carriage positioning.*

pling-in assembly is spring-loaded into engagement with the coupling disk. The coupling disk is attached to the main control shaft by a setscrew and couples the scanning knob movement to the carriage-positioning mechanism as long as the coupling-pin assembly and coupling disk are engaged. The main control shaft has a spring-loaded front pulley and a regular rear pulley to which the index cable is attached.

c. Starting with the front pulley, the index cable goes up and to the left over the right guide pulley, continues to the left, around the cam on the index sprocket, to the left guide pulley, then around the left guide pulley and to the right, to the adjusting collar on the carriage. After a wrap around the adjusting collar, it continues to the right to end at the rear pulley. The spring anchor collar, which operates the front pulley, maintains constant tension on the index cable.

d. An extension of the RECORD-LISTEN lever extends through the main frame and is connected to a fork assembly. When the RECORD-LISTEN lever is in the RECORD position, the fork assembly pivots, contacts the coupling-pin assembly, and lifts it out of engagement with the coupling disk. This action prevents damage to the record stylus and disk by preventing carriage positioning when the RECORD–LISTEN lever is in the RECORD position.

6–9. Backspace Mechanism
(fig. 6–7)

a. The solenoid-operated backspace mechanism contains and uses the half nut (pinion gear) that is used for carriage feed to backspace the carriage.

b. When the backspace solenoid is energized, a screw in the armature of the solenoid moves the pawl carrier assembly toward the main frame. As the pawl carrier is moved toward the main frame, the spring-loaded pawl is moved away from the reset pin mounted on the main frame and is allowed to engage the teeth of the friction cylinder and ratchet assembly. As the solenoid armature continues moving the pawl carrier, the friction cylinder and ratchet assembly is rotated by the pawl. The brake band allows rotation of the half-nut (pinion gear) in a clockwise direction, resulting in backspacing of the carriage. The brake band provides enough tension to hold the half-nut rigid during proper carriage feed operation.

6–10. Electrical Circuits

Functioning of the electrical assemblies in the AN/TNH–16 is described in paragraphs 6–11 and 6–12.

6–11. Power and Control Circuits
(fig. 6–8)

a. Power Supply. Line voltage is applied through switch S1 and fuse F1 to the series-connected tube filaments and pilot lamp DS1,

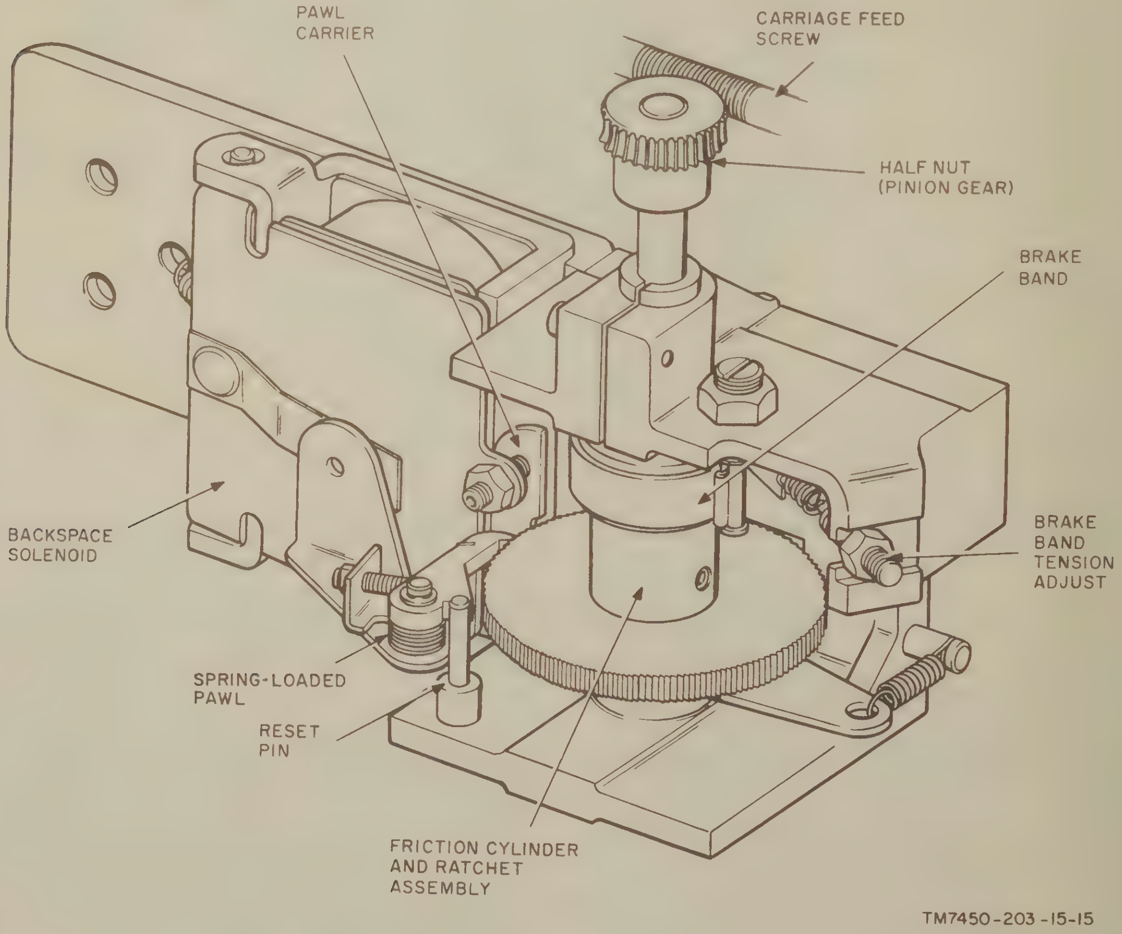
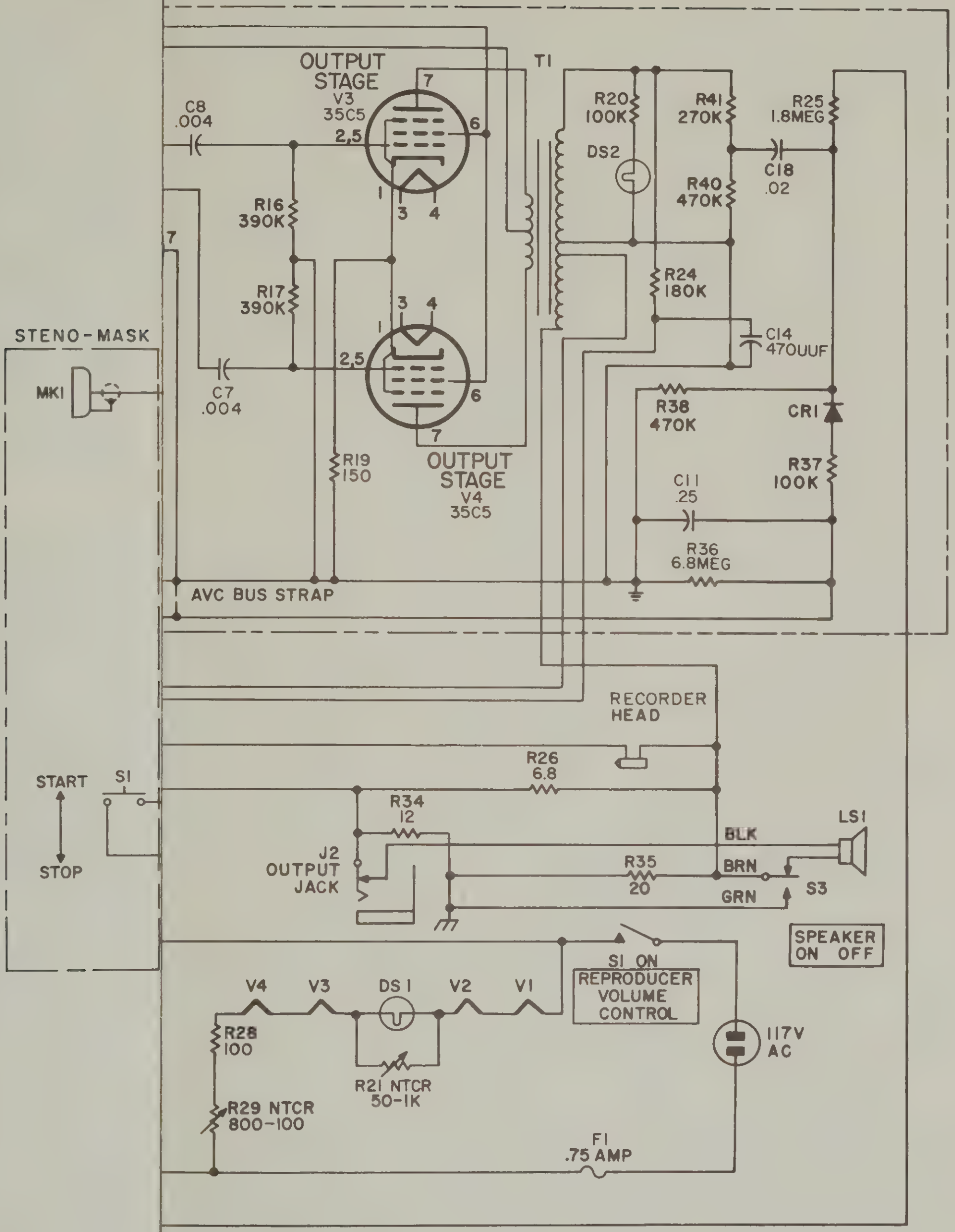


Figure 6–7. Backspace mechanism.



NOTES:

1. UNLESS OTHERWISE SHOWN, RESISTANCES ARE IN OHMS, CAPACITANCES ARE IN UF.
2. ▭ INDICATES EQUIPMENT MARKINGS.
3. CRADLE SWITCH S5 IS USED ONLY WITH A MICROPHONE.

20,000 Ω/VOLT METER, USED ON LOWEST APPLICABLE SCALE.

RECORDER IN RECORD POSITION DC READINGS MADE BETWEEN INDICATED POINT AND B- AT FILTER CAN OR PIN 9 OF J1

NC=NORMALLY CLOSED
NO=NORMALLY OPEN
C =COMMON
CO=CHANGEOVER
SS=START / STOP
NTCR=NEGATIVE TEMPERATURE COEFFICIENT RESISTOR
AVC=AUTOMATIC VOLUME CONTROL
BS=BACKSPACE

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by preventing carriage positioning when the RECORD–LISTEN lever is in the RECORD position.

6–9. Backspace Mechanism
(fig. 6–7)

a. The solenoid-operated backspace mechanism contains and uses the half nut (pinion gear) that is used for carriage feed to backspace the carriage.

b. When the backspace solenoid is energized, a screw in the armature of the solenoid moves the pawl carrier assembly toward the main frame. As the pawl carrier is moved toward the main frame, the spring-loaded pawl is moved away from the reset pin mounted on the main frame and is allowed to engage the teeth of the friction cylinder and ratchet assembly. As the solenoid armature continues moving the pawl carrier, the friction cylinder and ratchet assembly is rotated by the pawl. The brake band allows rotation of the half-nut (pinion gear) in a clockwise direction, resulting in backspacing of the carriage. The brake band provides enough tension to hold the half-nut rigid during proper carriage feed operation.

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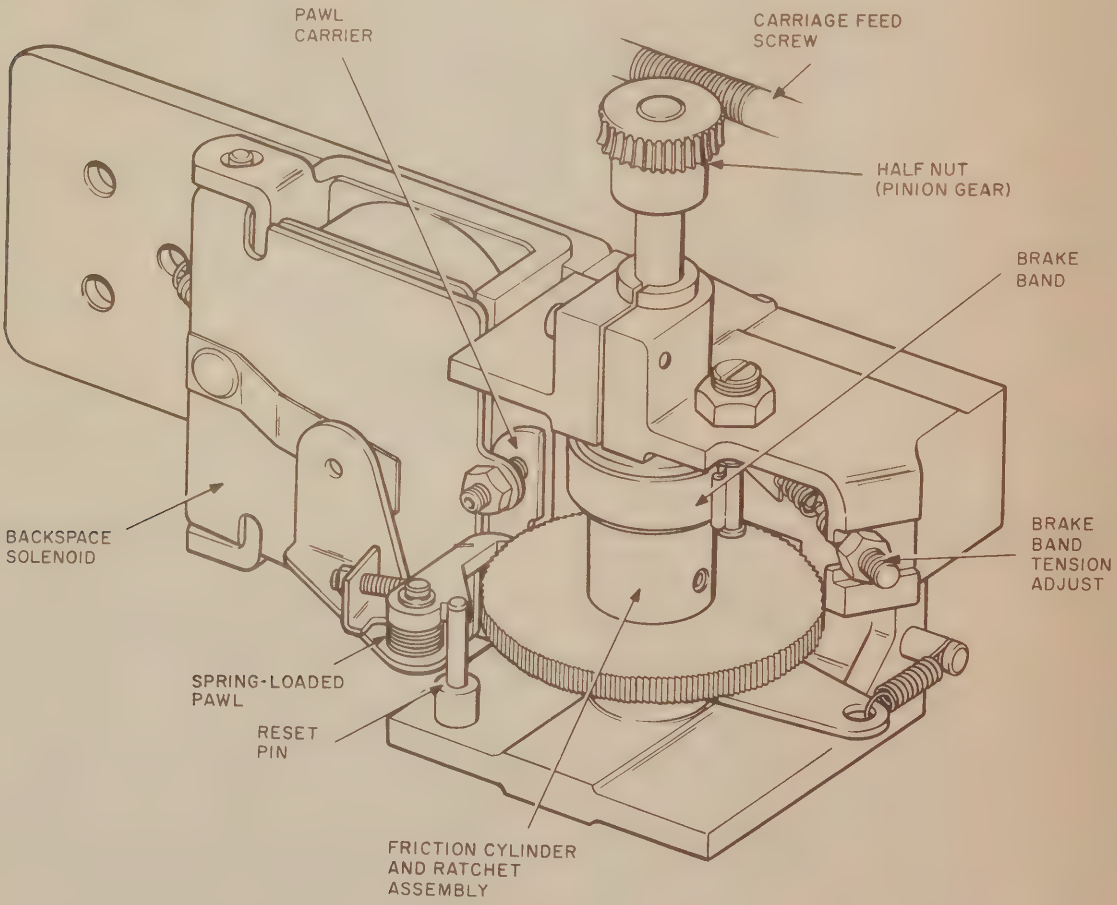
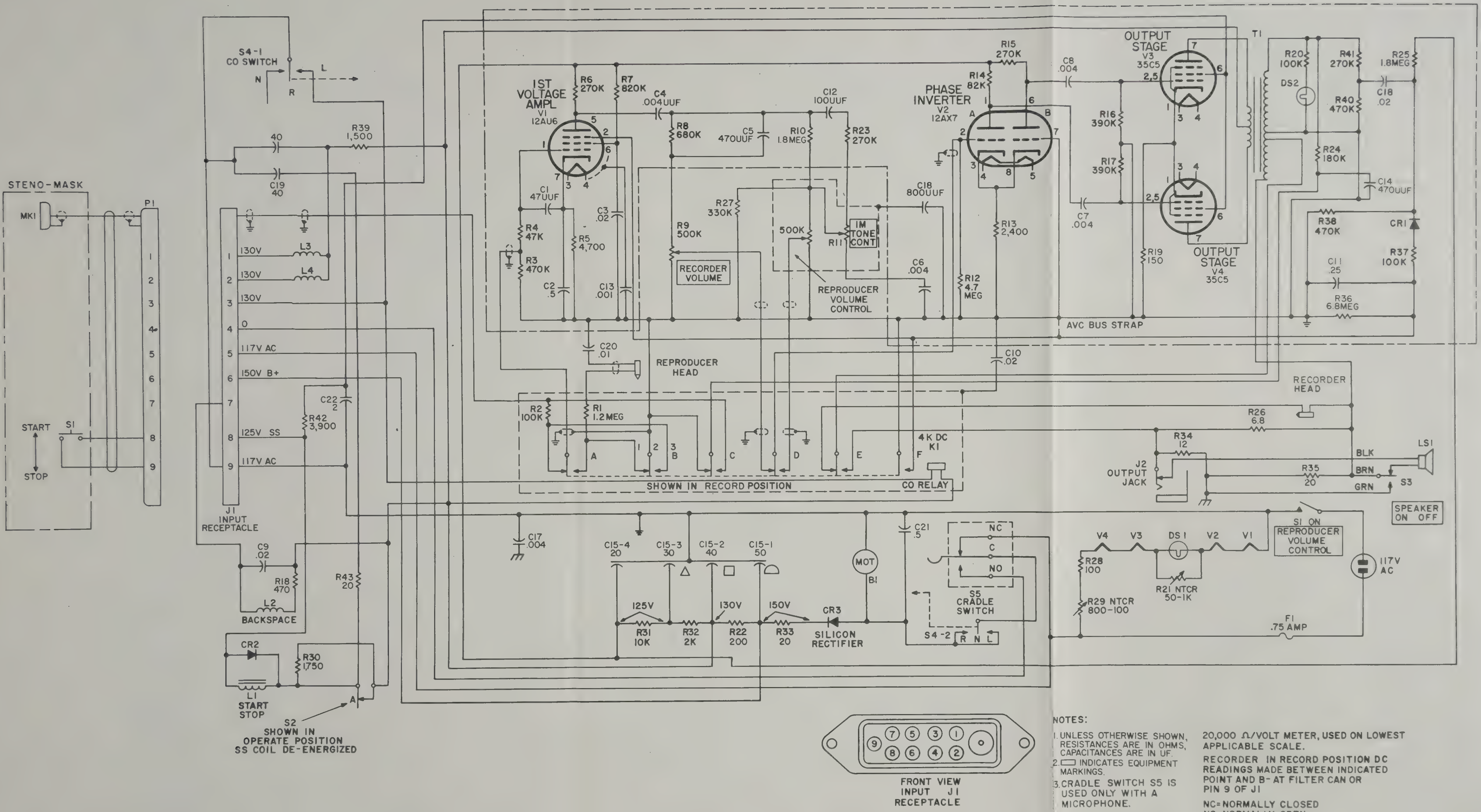


Figure 6–7. Backspace mechanism.



NOTES:

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2. ▭ INDICATES EQUIPMENT MARKINGS.
3. CRADLE SWITCH S5 IS USED ONLY WITH A MICROPHONE.

20,000 Ω/VOLT METER, USED ON LOWEST APPLICABLE SCALE.

RECORDER IN RECORD POSITION DC READINGS MADE BETWEEN INDICATED POINT AND B- AT FILTER CAN OR PIN 9 OF J1

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AVC=AUTOMATIC VOLUME CONTROL
BS=BACKSPACE

Figure 6-8. Overall schematic diagram.

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through cradle switch S5 and changeover switch S4–2 to the motor and direct current (dc) voltage network. The dc voltage network consists of diode CR3, capacitor C15, and resistors R22, R31, R32, and R33. Negative temperature coefficient resistors R21 and R29 compensate for tube and pilot lamp aging and current surges. Resistor R21 allows continuted operation of the amplifier if the pilot lamp burns out. Changeover switch S4–2 applies line voltage to drive motor B1 and the dc voltage network. Capacitor C21 filters motor noise from the amplifier. Silicon rectifier CR3 rectifies the line voltage, and sections of C15, with the associated dropping resistors, filter and provide the correct dc operating voltages for the amplifier.

b. Start–Stop Solenoid. To operate the start–stop solenoid, an accessory must be plugged into input receptacle J1. When the start–stop switch on the accessory is closed, current flows from the power supply through the start–stop solenoid to input receptacle J1–8. The start–stop switch of the accessory connects receptacle J1–8 to receptacle J1–9, which is the B-line, completing the circuit to energize the start–stop solenoid. Diode CR2 allows fast operation of the start–stop solenoid by providing a path for the collapsing magnetic field. Shorting switch S2 shorts out resistor R30 when the start–stop solenoid is deenergized. This action allows full current to flow through the start–stop solenoid to energize it and the plunger is pulled into the solenoid. As the plunger reaches the end of its travel it opens S2 and inserts resistor R30 in series with the start–stop solenoid coil. Resistor R30 establishes a holding voltage to keep the start–stop solenoid energized, and limits current flowing through the start–stop solenoid to prevent heat buildup in the solenoid coil.

c. Backspace Solenoid. The backspace solenoid can be actuated by the foot control only. When the backspace switch is actuated, current flows from the power supply through the backspace solenoid coil to input receptacle J1–7. The backspace switch in the foot control connects receptacle J1–7 to receptacle J1–9, and to the B-line, completing the circuit to energize the backspace solenoid. Resistor R18 limits the backspace solenoid coil current to a safe value. Capacitor C9 aids fast operation of the backspace solenoid.

d. Changeover Relay. The six-section, changeover relay functions as follows:

(1) Section A connects the input from the stenomask to the grid of the first stage when recording, and connects the reproducer head output to the grid of the first stage when listening.

(2) Section B grounds the reproducer head output when recording. When listening, it places R2 in series with R24. The network of resistors R24, R2, and R3 permits sufficient audio voltage to develop to drive the dynamic microphone element and allow its use as an earphone.

(3) Section C provides a fixed amplifier load through resistor R24 when recording and playback through the microphone when listening.

(4) Section D switches the RECORD VOLUME control into the circuit during recording and the reproducer on–off–volume control into the circuit when listening.

(5) Section E switches the recorder head into the circuit when recording and out of the circuit when listening.

(6) Section F shorts out automatic volume control (avc) action when listening. The avc is needed while recording to prevent overmodulation and distortion due to extra wide groove formation.

(7) The contacts are normally in the RECORD position. The relay is energized by changeover switch S4, which is mounted on the upper frame and operated by an actuator on the main control cam. The main control cam is positioned by the RECORD–LISTEN lever.

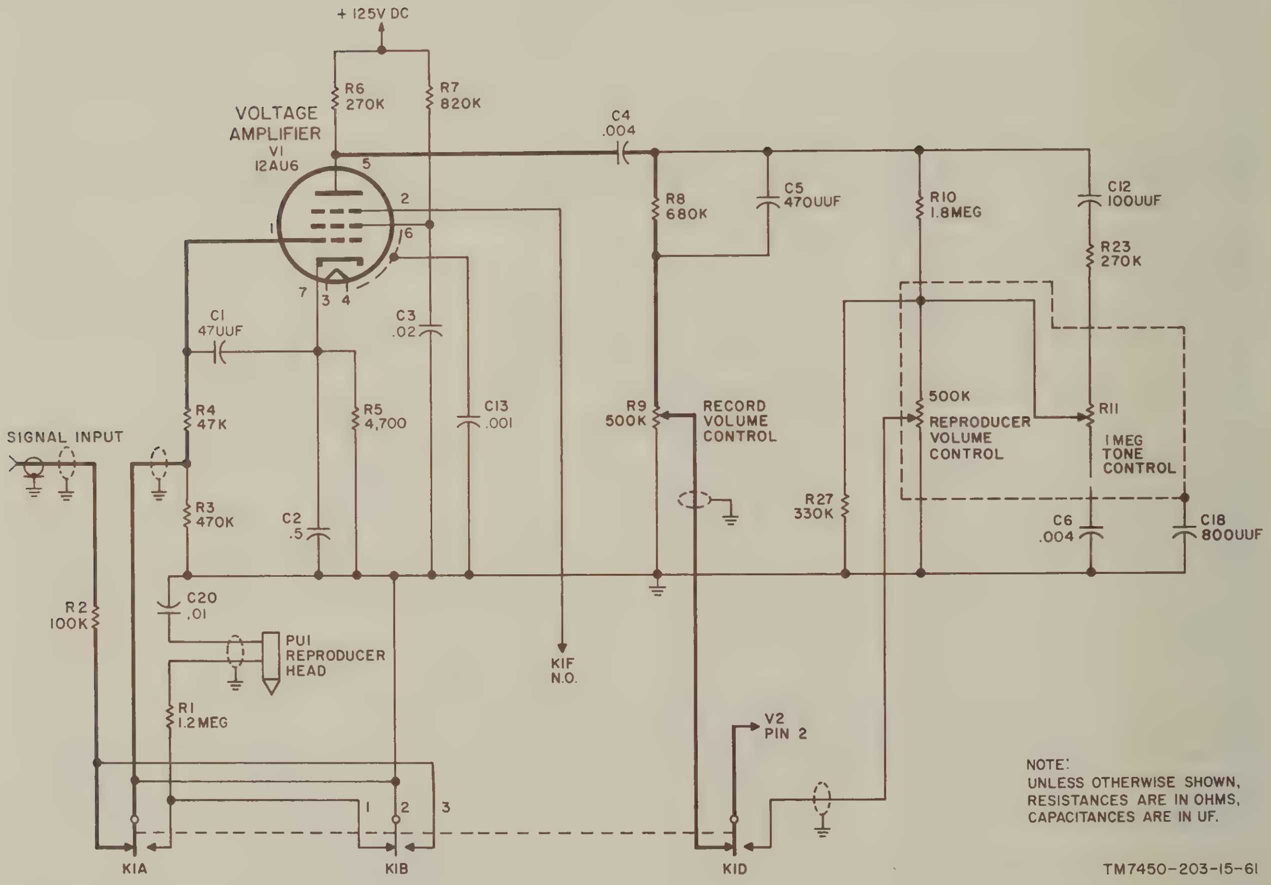
(8) When the RECORD–LISTEN lever is in the neutral or RECORD position, the changeover relay remains deenergized. When the RECORD–LISTEN lever is in the LISTEN position, changeover switch S4–1 provides the B- connection for the changeover relay. Current flows from the power supply through the changeover relay coil into changeover switch

S4-1, through switch S4-1, to the B- line, allowing the changeover relay to energize. A second section of changeover switch S4-2 connects the motor through S5 (S5 is the microphone cradle switch). The microphone is not a part of the 117-volt alternating current (ac) circuit when the RECORD-LISTEN lever is in the RECORD or LISTEN position.

6-12. Amplifier Circuit

(fig. 6-8)

a. The amplifier is a three-stage, push-pull output, vacuumtube amplifier. The first stage (V1) operates as a class A voltage amplifier (fig. 6-9). A microphone signal developed across R2 or a reproducer head signal devel-



NOTE:
UNLESS OTHERWISE SHOWN,
RESISTANCES ARE IN OHMS,
CAPACITANCES ARE IN UF.

Figure 6-9. Voltage amplifier V1, partial schematic diagram.

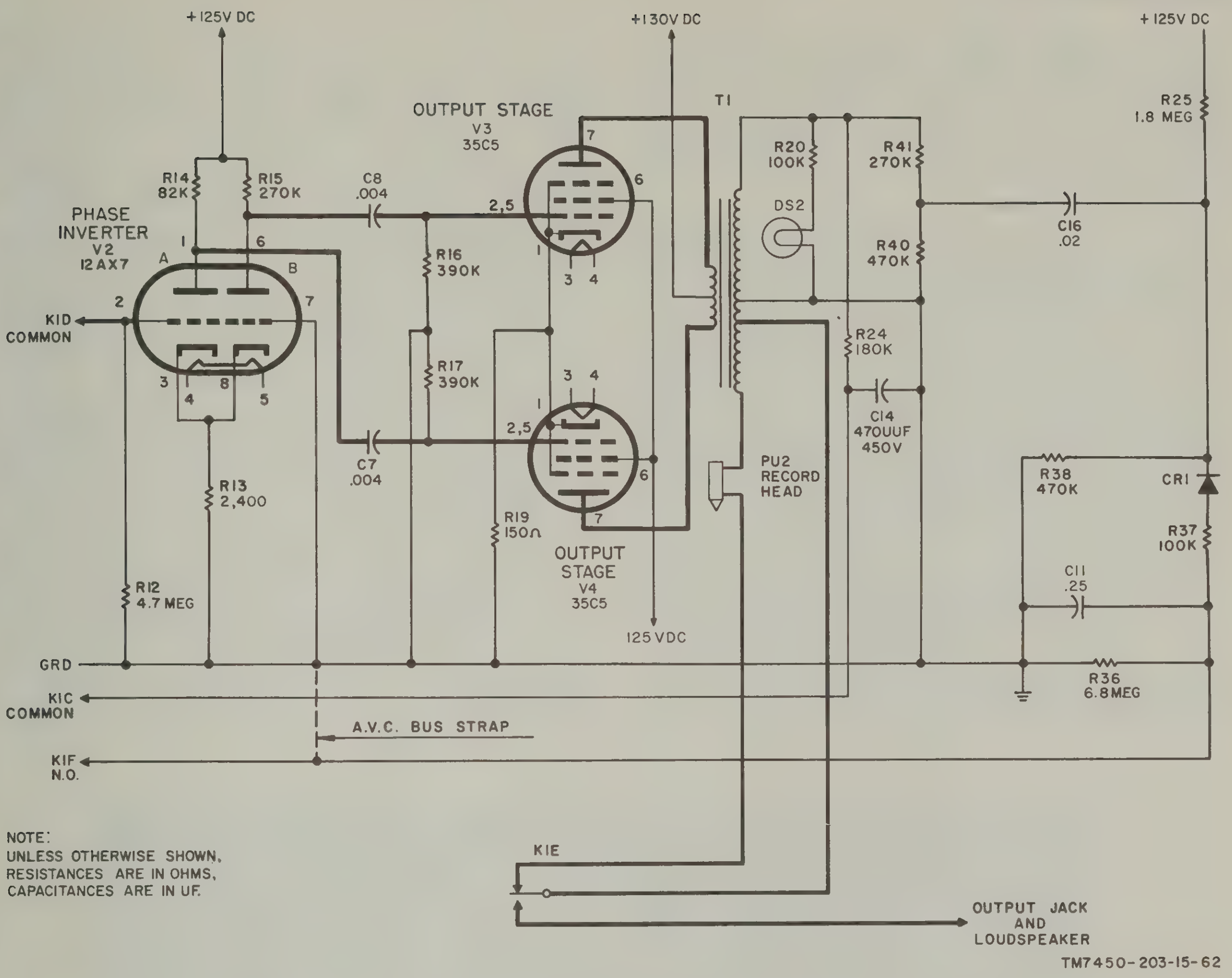


Figure 6-10. Second and output stages partial schematic diagram.

oped across R1 is fed through section A of changeover relay K1 to the junction of grid resistors R3 and R4. The signal is applied through R4 to the grid of V1 and amplified. Cathode bias is developed by R5 with C2 as the bypass capacitor. Resistor R6 is the plate load for V1. Resistor R7 is the screen-grid voltage-dropping resistor with capacitor C3 for the bypass capacitor.

b. The output of V1 is capacitively coupled to the RECORD VOLUME, recorder-reproducer on–off–volume and tone control circuits by C4. A signal from the wiper of resistor R9 when recording, and from R11 when listening, is fed through section D of relay K1 to the grid of V2.

c. Second stage V2 (fig. 6–10) uses a dual-section tube to provide some amplification and the phase inversions required for the following push-pull output stage. Resistor R12 is the grid resistor for V2A. The plate loads are R14 for V2A and R15 for V2B. The grid of V2B is grounded.

d. The audio signal from section D of K1 is developed across R12, amplified by V2A, and capacitively coupled by C7 to the control grid of V4. Section V2B operates as a ground-grid amplifier. The input signal is cathode-coupled into V2B by common, unbypassed cathode resistor R13. The audio signal at V2A causes both cathodes to vary with it. Because the control grid of V2B is grounded and held constant V2B will amplify the audio signal 180° out of phase to V2A.

e. The output signal of V2B is capacitively coupled by C8 to the control grid of V3 and because of the large value of the plate load of V2B as compared to V2A, the signals applied to the push-pull output V3 and V4 are nearly equal in amplitude.

f. The audio signals from V2A and V2B are developed across grid resistors R17 and R16 respectively and fed to the control grids of V4 and V3, respectively. Cathode bias for V3 and V4 is established by R19. Plate voltages for V3 and V4 are applied through the primary of output transformer T1. The output signals from V3 and V4 are fed into and combined in the primary winding of transformer T1.

g. Transformer T1 has two sets of output windings. One set, of low impedance, feeds the record head output through section E of K1. The second winding of high impedance, provides a signal to the automatic volume control circuit and for stenomask playback.

h. An avc or threshold voltage, from capacitor C15–4, of approximately 48 volts dc, is applied across resistor R38 at selenium diode CR1. The audio signal from T1 is coupled to the avc circuit by capacitor C16 and appears across resistor R38 also. Diode CR1 is inversely polarized to block the B+ voltage and positive swings of the audio signal. Negative audio peaks great enough to exceed the threshold voltage will be passed by diode CR1. When the negative peaks exceed the threshold voltage, current flow through diode CR1, and resistors R36, and R37 causes a filtered B- voltage to be developed across resistor R36, and to be applied to the suppressor grid of V1, reducing the gain of that stage.

i. The speaker is disconnected from the circuit whenever a plug in inserted into output jack J2. The speaker can also be disconnected by placing SPEAKER switch S3 in the OFF position.

CHAPTER 7

AUXILIARY EQUIPMENT

Section I. GENERAL

7-1. Purpose

a. The switching device (fig. 7-1) is an auxiliary selecting unit that enables normal recording procedures to continue without interruption. By using two recorder-reproducer units and the switching device, recording may continue for any length of time desired.

b. As the end of the recording time for the disk on one recorder-reproducer is reached, the operator rotates the selector switch on the switching device to the second recorder-reproducer and recording can continute. The operator can then turn the first disk over and the first recorder-reproducer is ready to record again.

7-2. Installation and Operation

a. Installation (fig. 7-1).

(1) Plug P1 into the recorder-reproducer input receptacle (fig. 2-2) of one recorder-

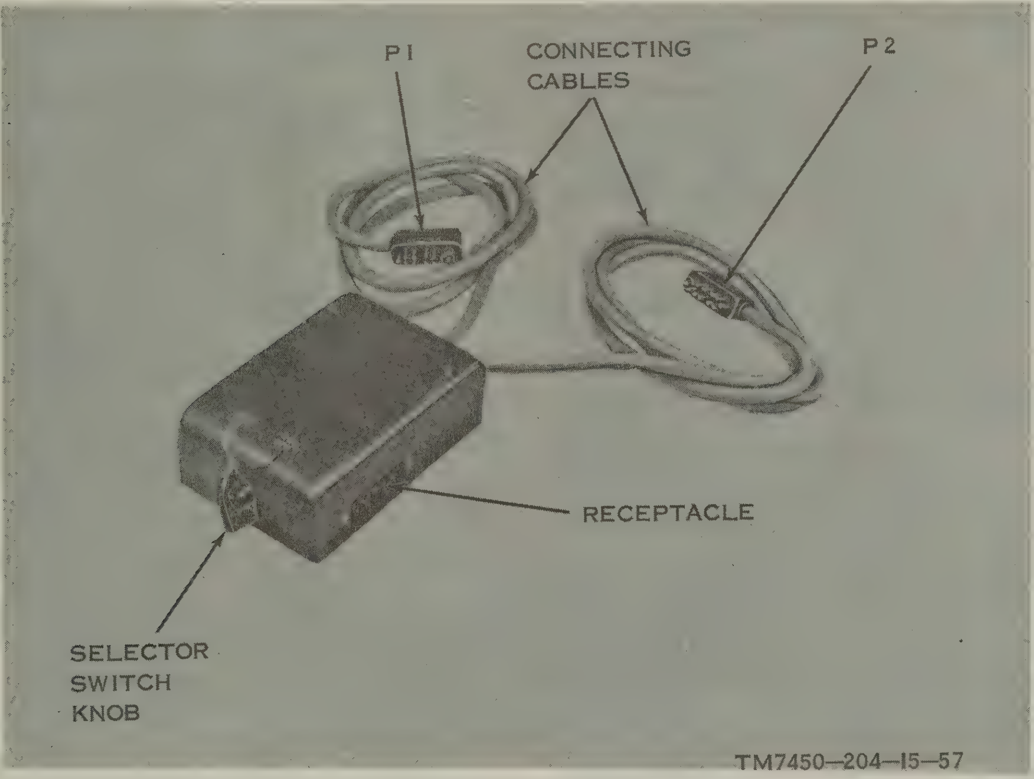


Figure 7-1. Switching device.

reproducer and plug P2 into the recorder-reproducer input receptacle of the second recorder-reproducer.

(2) Plug the stenomask into the receptacle on the switching unit.

b. Operation.

(1) Place the RECORD–LISTEN lever on the left unit (fig. 2–3) in the RECORD position.

(2) Place the switching device selector switch knob in the LEFT UNIT position.

(3) Follow the normal operating procedures (para 2–7).

(4) As the disk on the left unit approaches the end of its recording time, place the RECORD-LISTEN lever on the right unit (fig. 2–3) in the RECORD position.

(5) Turn the switching device selector switch to the RIGHT UNIT position.

(6) Return the RECORD–LISTEN lever on the left unit to the neutral position.

(7) While the right unit is recording, turn the disk on the left unit over to the second side.

(8) If recording is to continue, repeat the steps in (1) through (7) above as often as necessary.

Section II. OPERATOR AND ORGANIZATIONAL MAINTENANCE

7–3. Tools and Materials Required for Operator's Maintenance of Switching Device

No tools are required for operator's maintenance of the switching device. Only the materials listed in paragraph 3–2 are required.

7–4. Operator's Maintenance of Switching Device

The operator's maintenance of the switching device consists of cleaning and repeating the operating sequence in paragraph 7–2*b*, and reporting any discrepancies to higher category for repair.

7–5. Test Equipment Required for Organizational Maintenance of Switching Device

The only test equipment required for organizational maintenance of the switching device is Multimeter TS–352B/U.

7–6. Organizational Maintenance of Switching Device

Organizational maintenance consists mainly of continuity testing (para 7–8).

Section III. DIRECT SUPPORT MAINTENANCE

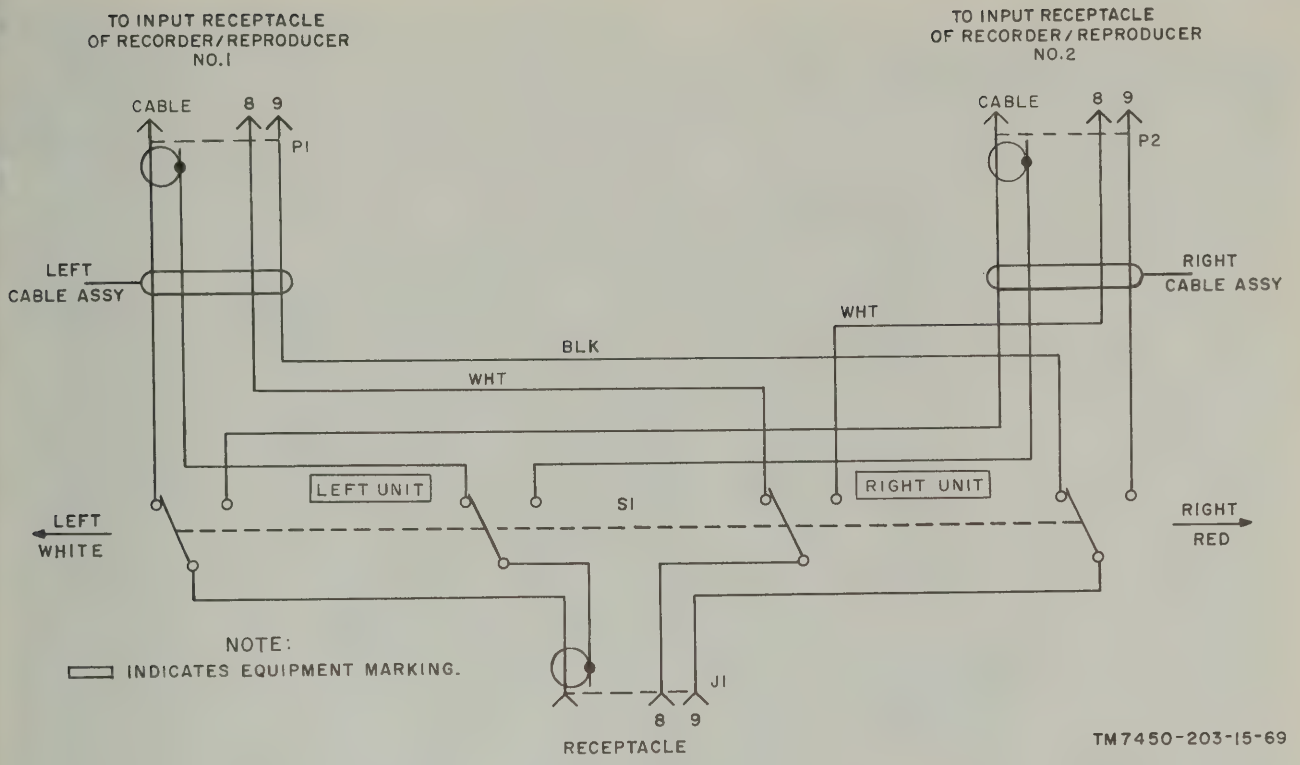
7–7. Tools and Test Equipment Required for Maintenance of Switching Device

Tools and test equipment listed in paragraph 4–2 are required for direct support maintenance of the switching device.

7–8. Direct Support Troubleshooting
(fig. 7–2)

Use Multimeter TS–352B/U, to make resistance measurements shown in the resistance chart below. All readings should be 0 ohm.

Selector switch position	*From*	*To*
LEFT UNIT	Coax center conductor at J1	Coax center conductor at P1
RIGHT UNIT	Coax center conductor at J1	Coax center conductor at P2
LEFT UNIT	Coax shield at J1	Coax shield at P1
RIGHT UNIT	Coax shield at J1	Coax shield at P2
LEFT UNIT	Pin 8 at J1	Pin 8 at P1
RIGHT UNIT	Pin 8 at J1	Pin 8 at P2
LEFT UNIT	Pin 9 at J1	Pin 9 at P1
RIGHT UNIT	Pin 9 at J1	Pin 9 at P2



NOTE:
▭ INDICATES EQUIPMENT MARKING.

Figure 7–2. Switching device, schematic diagram.

7–9. Removal and Replacement of Selector Switch

(figs. 7–1 and 7–3)

a. Removal.

(1) Unscrew the setscrew that secures the knob to the shaft.

(2) Slide the knob off the shaft.

(3) Remove the nut from the shaft and remove the switch.

b. Replacement. To replace the selector switch, reverse the removal procedures (*a* above).

7–10. Removal and Replacement of Cover

a. Removal.

(1) After the selector switch has been removed, detach the cover from the frame by unscrewing the holddown screws.

(2) Detach receptacle J1 from the cover by removing the screws, washers, and nuts.

b. Replacement. To replace the cover, reverse the removal procedure (*a* above).

7–11. Removal and Replacement of Receptacle

a. Removal.

(1) Remove the cover and selector switch (para 7–9).

(2) Mark the wires leading from the switch to the receptacle to insure proper placement on the new receptacle.

(3) Unsolder the leads with a soldering gun and detach the leads from their respective posts.

b. Replacement. To replace the receptacle, reverse the removal procedures (*a* above).

7–12. Removal and Replacement of Selector Switch Leads

a. Removal.

(1) Remove the selector switch knob (para 7–9).

(2) Detach the cover from the frame (para 7–10).

(3) Remove the nut from the switch and detach the switch from the frame.

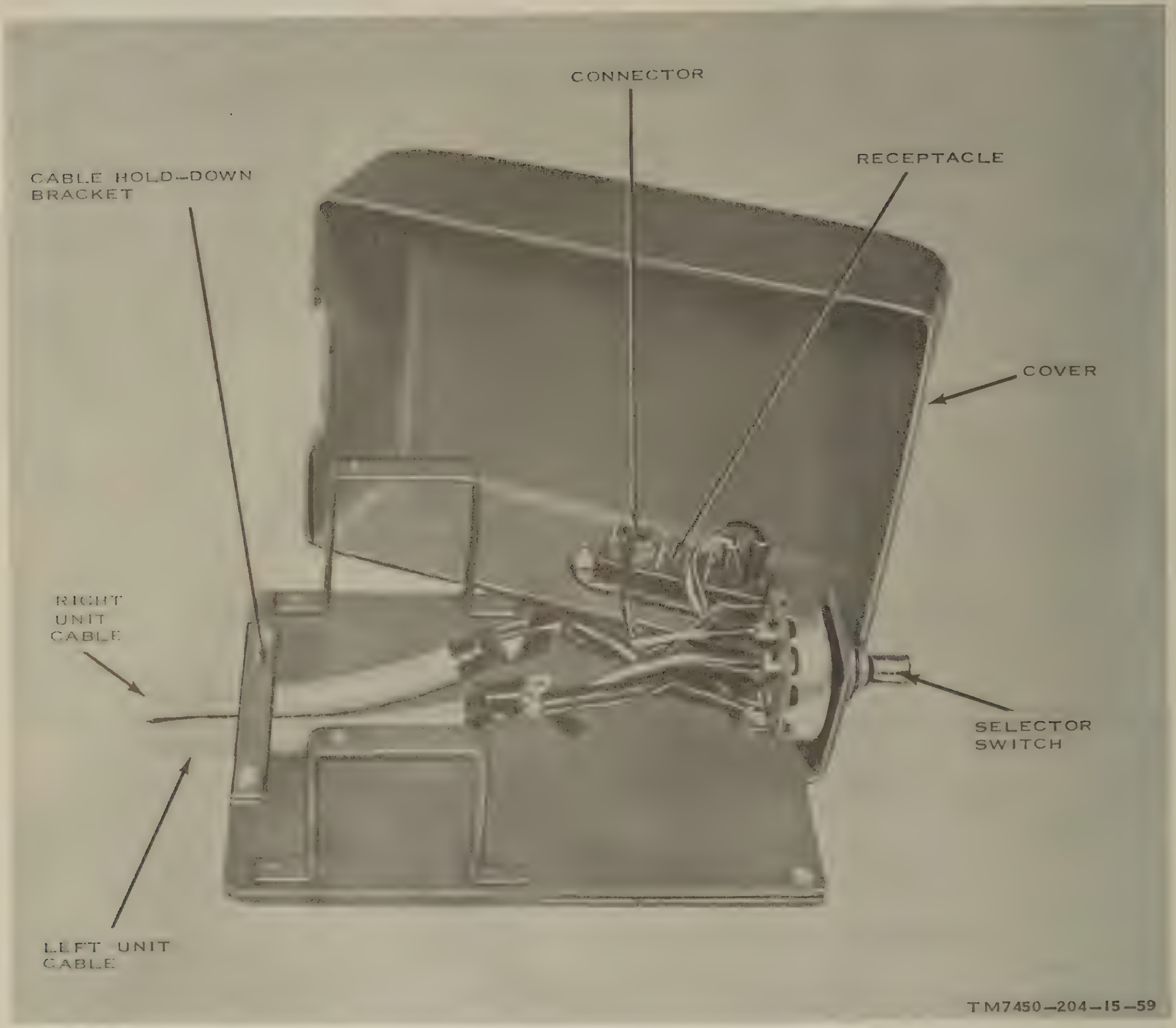


Figure 7–3. Switching device, cover removed.

(4) Mark the wires leading from the two cables and the receptacle to insure their proper placement on the new switch.

(5) Unsolder the leads with a soldering gun and detach the leads from their respective terminals.

b. Replacement. To replace the selector switch, reverse the removal procedures (*a* above).

7–13. Removal and Replacement of Cable Assemblies

a. Removal.

(1) Remove the selector switch knob (para 7–9).

(2) Remove the cover from the frame (para 7–10).

(3) Mark the wires leading from the cable

assemblies to the selector switch to assure proper placement of the new cable leads.

(4) Unsolder the leads with a soldering gun and detach the cable leads from their respective posts.

(5) Loosen the screws of the cable holddown bracket and remove cable.

b. Replacement.

(1) To replace the cable assemblies, reverse the removal procedures (*a* above).

(2) Cut all extraneous leads short, fold them back over the cable casing, and attach the ends to the cable casing with electrical tape.

CHAPTER 8

DEPOT OVERHAUL STANDARDS

8–1. General

Complete rebuild of Recorder-Reproducer Set, Sound AN/TNH–16 and/or its individual components may be done by depot maintenance facilities when authorized. Rebuild procedures of the AN/TNH–16 will include all repair, rebuild, replacement, and testing operations necessary to make the equipment suitable for return to Department of the Army supply system stocks for reissue to using organizations as equipment equivalent to new material. Detailed procedures for performing the repairs and adjustments described in the preceding portions of this manual, and such additional repair and rebuild operations as deemed necessary, will be established by the maintenance facility performing the work.

8–2. Applicable References Maintenance Procedures

Restore the appearance, the performance, and the life expectancy of the AN/TNH–16 various units to a standard comparable to that of new equipment by performing the procedures given below.

a. Disassemble all the AN/TNH–16 units as required.

b. Inspect all the AN/TNH–16 component parts.

c. Repair or replace any worn or unserviceable part with a part that conforms to the original manufacturing specifications and tolerances.

d. Reassemble the AN/TNH–16 units.

e. Perform the testing procedures given in chapter 5.

8–3. Overhaul Standards

Depot overhaul standards are the same as for general support testing procedures (ch. 5).

8–4. Test Equipment, Tools, and Materials Required

The test equipment, tools, and materials required for depot overhaul standards are listed in paragraph 5–2. In addition, any depot shop facility can be used.

CHAPTER 9

SHIPMENT, LIMITED STORAGE, AND DEMOLITION TO PREVENT ENEMY USE

Section I. SHIPMENT AND LIMITED STORAGE

9-1. Disassembly of Equipment

Disassemble Recorder-Reproducer Set, Sound AN/TNH-16 as follows:

a. Disconnect the ac power cord from the power source.

b. Disconnect all components (microphone, foot switch, and headset) from the recorder-reproducer.

c. Remove the disk and index strip and file them.

9-2. Repackaging for Shipment or Limited Storage

Repackaging of equipment for shipment or limited storage normally will be performed at a packaging facility or by a packaging team. If emergency packaging is required, select materials from SB 38-100. Package the AN/TNH-16 in accordance with the original packaging as much as possible with available materials.

Section II. DEMOLITION OF EQUIPMENT TO PREVENT ENEMY USE

9-3. Authority for Demolition

Demolition of the equipment will be accomplished only upon order of the commander. The destruction procedures outlined in paragraph 9-4 will be used to prevent further use of the equipment.

9-4. Methods of Destruction

Use any or all of the following methods to destroy the equipment:

a. Smash. Smash the recorder-reproducer, foot control, microphone, headset.

b. Cut. Cut the input power cord, microphone cable, foot switch cable, and any accessible chassis wiring.

c. Burn. Burn all cables, disks, technical manuals, and chassis wiring.

d. Dispose. Bury or scatter the destroyed parts in slit trenches, foxholes, or throw them into streams.

APPENDIX A

REFERENCES

The following publications are applicable to operator, organizational, direct and general support, and depot maintenance of Recorder-Reproducer Set, Sound AN/TNH-16.

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8 and 9), Supply Bulletins, and Lubrication Orders
DA Pam 310-7	Index of Modification Work Orders
SB 38-100	Preservation, Packaging, and Packing Materials, Supplies, and Equipment Used by the Army
TB SIG 364	Field Instructions for Painting and Preserving Electronics Command Equipment
TM 11-6625-203-12	Operator and Organizational Maintenance: Multimeter AN/URM-105, Including Multimeter ME-77/U
TM 11-6625-219-12	Organizational Maintenance Manual: Oscilloscope AN/USM-81
TM 11-6625-261-12	Operator's and Organizational Maintenance Manual: Audio Oscillators TS-382A/U, TS-382B/U, TS-382D/U, TS-382E/U, and TS-382F/U
TM 11-6625-274-12	Operator's and Organizational Maintenance Manual: Test Sets, Electron Tube TV-7/U, TV-7A/U, TV-7B/U, and TV-7D/U
TM 11-6625-320-12	Operator and Organizational Maintenance Manual: Voltmeter, Meter ME-30A/U and Voltmeters, Electronic ME-30B/U, ME-30C/U, and ME-30E/U
TM 11-6625-366-15	Organizational, DS, GS, and Depot Maintenance Manual: Multimeter TS-352B/U
TM 38-750	Army Equipment Record Procedures

APPENDIX B
BASIC ISSUE ITEMS

Section I. INTRODUCTION

B–1. General

This appendix lists items comprising an operable equipment and those required for installation, operation, or operator's maintenance for Recorder-Reproducer Set, Sound AN/TNH–16.

B–2. Explanation of Columns

The following is a list of explanations of columns in section II.

a. Source, Maintenance, and Recoverability Codes Column.

(1) *Source code column.* The selection status and source for the listed item is noted here. The source codes used are—

Code	*Explanation*
P	Applies to repair parts which are stocked in or supplied from GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
G	Applies to major assemblies that are procured with PEMA funds for inital issue only to be used as exchange assemblies at DSU and DSU category. These assemblies will not be stocked above DSU and GSU category or returned to depot supply category.

(2) *Maintenance code column.* The lowest category of maintenance authorized to install the item is indicated here. The maintenance codes used are as follows:

Code	*Explanation*
C	Operator/crew
O	Organizational maintenance
H	General support maintenance

(3) *Recoverability code column.* The information in this column indicates whether unserviceable items should be returned for recovery or salvage. Recoverability code and its explanation is as follows:

Code	*Explanation*
R	Applies to repair parts and assemblies that are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.

b. Federal Stock Number Column. This column indicates the Federal stock number for the item.

c. Description Column. The Federal item name, a five digit manufacturer's code and a part number are included in this column.

d. Unit of Issue Column. The unit used as a basis of issue (e.g., ea, pr, ft, yd, etc.) is given in this column.

e. Quantity Incorporated in Unit Pack Column. The actual quantity contained in the unit pack is noted in this column.

f. Quantity Incorporated in Unit, Column. The total quantity of the item used in the equipment is given in this column.

g. Quantity Authorized Column. This column lists the quantity of items supplied for the initial operation of the equipment. Items to be requisitioned as required are indicated by an asterisk. Under *Running Spares* the quantities listed are those issued initially with the equipment as spare parts. The quantities are authorized to be kept on hand by the operator for maintenance of the equipment.

h. Illustrations Column.

(1) *Figure number* (*a*). The number of

the illustration on which the item is shown is indicated in this column.

(2) *Item No. or reference designation* (*b*). The reference designation and/or item number callout used to reference the item on the illustration appears in this column.

SECTION II. BASIC ISSUE ITEMS

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) QTY AUTH	(8) ILLUSTRATIONS (A) FIGURE NUMBER	(8) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
G	C	R	7450-999-6085							RECORDER-REPRODUCER SET, SOUND AN/TNH-16: 21035 (This item is nonexpendable.)					1-1	
										TECHNICAL MANUAL TM 11-7450-203-15	EA		1	1		
										Requisition through pinpoint account number if assigned; otherwise through nearest Adjutant General facility.						
										NOTE: For technical manuals the quantity indicates the maximum number of copies authorized for packing (or issue) with the equipment. Where a number of these equipments are concentrated in a small area, the quantity on hand may be reduced to minimum actual requirements as determined by the Commanding Officer of the unit.						
G	C		7450-999-6697							CASE, CARRYING: 21035; P031315	EA	1	1	1	1-1	
G	C		5835-034-5005							DISK, SOUND RECORDING: 21035; 024215	EA	100	200	200	1-1	
G	C	R	7490-600-1988							HEADSET, ELECTRICAL: 21035; P030858	EA	1	1	1	1-3	
G	C		7450-999-6700							INDEX STRIP: 21035; P025282	EA	1	5	5	1-1	
G	C	R	5835-089-8544							RECORDER-REPRODUCER, SOUND: 21035; S031504	EA	1	1	1	2-2	
G	C	R	7450-064-4628							STENO MASK: 96642; SM-7-5A	EA	1	1	1	1-2	
G	C	R	5835-021-2521							SWITCH, FOOT: 21035; P034217	EA	1	1	1	1-4	
G	C	R	7450-999-6699							SWITCHING DEVICE: 21035; S034881	EA			*	7-1	
										RUNNING SPARES						
P	H		3030-087-0499							BELT, FLAT: 03938; 7848	EA	10	1	1	5-13	
P	O		5960-892-3421							ELECTRON TUBE: 81349; 12AU6	EA	1	1	1	6-9	V1

BASIC ISSUE ITEMS LIST

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) QTY AUTH	(8) ILLUSTRATIONS (A) FIGURE NUMBER	(8) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
P	O		5960-166-7664							ELECTRON TUBE: 81349; 12AX7	EA	1	1	1	6-10	V2
P	O		5960-228-5334							ELECTRON TUBE: 81349; 35C5	EA	1	2	1	6-10	V3, V4
P	O		5920-199-9498							FUSE, CARTRIDGE: 75915; 313.500	EA	1	1	5	2-2 Ⓑ	F1
P	O		6240-583-9610							LAMP, INCANDESCENT: 24446; 1847	EA	10	1	1	2-2 Ⓐ	DS1
										ACCESSORY, TOOLS, AND TEST EQUIPMENT						
										NO ACCESSORY, TOOLS AND TEST EQUIPMENT ARE TO BE ISSUED WITH THE EQUIPMENT.						
										NOTE: THERE ARE NO ITEMS MOUNTED IN OR ON EQUIPMENT LISTED FOR STORAGE PURPOSES.						

APPENDIX C
MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Recorder-Reproducer AN/TNH-16. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

C-2. Explanation of Format for Maintenance Allocation Chart

a. Group Number. Group numbers correspond to the reference designation prefix assigned in accordance with ASA Y32.16, Electrical and Electronics Reference Designations. They indicate the relation of listed items to the next higher assembly.

b. Component Assembly Nomenclature. This column lists the item names of component units, assemblies, subassemblies, and modules on which maintenance is authorized.

c. Maintenance Function. This column indicates the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. The codes used represent the various maintenance categories as follows:

Code	*Maintenance category*
C	Operator/crew
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot maintenance

d. Tools and Equipment. The numbers appearing in this column refer to specific tools and equipment which are identified by these numbers in section III.

e. Remarks. Self-explanatory.

C-3. Explanation of Format for Tool and Test Equipment Requirements

The columns in the tool and test equipment requirements chart are as follows:

a. Tools and Equipment. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

d. Federal Stock Number. This column lists the Federal stock number.

e. Tool Number. Not used.

SECTION II. MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
1	RECORDER-REPRODUCER AN/TNH-16	C		C										Exterior
		O		O									7	Exterior and interior
			O										2	Continuity
			F										1,9	Continuity input voltage and tubes
			H										1,3,4,5,6,9	Final testing
					H								11 thru 20	All adjustments
									O				7	Replace, cord, knobs, tubes, fuses, listening device, face piece, ear plugs, driver
										F			10	Steno mask and foot switch control
										H			10	All repairs
											H		10	
														Depot maintenance will use tool code H8 for checking electron tubes.
1A	FOOT CONTROL TYPE SC-55A	O		O									7	Exterior and interior
			O										2	Continuity
			F										1	Final testing
										F			10	All repairs
											H		10	
1B	STENO MASK SMT-5A	O		O									7	Exterior and interior
			O										2	Continuity
			F										1	Final testing
									O					Replace face plate
										F			10	All repairs
											H		10	

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
		AN/TNH-16 (continued)		
1	F,H,D	MULTIMETER, TS-352/U	6625-242-5023	
2	O	MULTIMETER, AN/URM-105	6625-581-2036	
3	H,D	OSCILLOSCOPE, AN/USM-81	6625-701-4038	
4	H,D	SIGNAL GENERATOR, TS-382/U	6625-192-5094	
5	H,D	ATTENUATOR, DECADE	6625-201-8779	
6	H,D	VOLTMETER, ELECTRONIC ME-30A/U	6625-669-0742	
7	O	TOOL KIT, RADIO REPAIRMAN TK-115/G	5180-856-1578	
8	D	TEST SET, ELECTRON TUBE TV-2/U	6625-699-0263	
9	O,F,H	TEST SET, ELECTRON TUBE TV-7/U	6625-376-4939	
10	F,H,D	TOOL EQUIPMENT TK-87/U	5180-690-4452	
11	H,D	BURNISHING CONTACT HAND	5120-255-4458	
12	H,D	RELAY CONTACT ADJUSTING TOOL P.K. NEUSES INC TYPE NO. N-1631	5120-933-4565	
13	H,D	ADJUSTER SPRING COMMUNICATIONS	5120-230-7892	
14	H,D	SCALE, DIAL INDICATING PUSH-PULL	6670-246-8465	
15	H,D	TENSION GAUGE TIP, ASSEMBLY GRAY MFG CO, PART NR. S-34597	5120-933-4569	
16	H,D	1/4 HEX STUBBY NUT DRIVER DRILLED GRAY MFG CO. PART NR. P-24319	5120-933-4566	
17	H,D	#4 ALLEN EXTENSION KEY GRAY MFG CO. NR. 95035	5120-933-4571	
18	H,D	#6 ALLEN EXTENSION KEY GRAY MFG CO. 95037	5120-933-4572	
19	H,D	KNOB ASSEMBLY GRAY MFG CO. NR. S-34598	5355-933-4570	
20	H,D	HOOK, SPRING PULL	5815-370-1299	

APPENDIX D

ORGANIZATIONAL, DS, GS, AND DEPOT REPAIR PARTS AND SPECIAL TOOLS

Section I. INTRODUCTION

D-1. Scope

This appendix contains a list of repair parts and special tools required for the performance of organizational maintenance and a list covering the corresponding requirements for direct support, general support, and depot maintenance for Recorder-Reproducer Set, Sound AN/TNH-16.

D-2. General

The repair parts and special tools list is divided into the following sections:

a. Prescribed Load Allowance (PLA), Section II. The PLA is a consolidated listing of repair parts allocated for initial stockage at the organizational maintenance category. This is a mandatory minimum stockage allowance.

b. Repair Parts for Organizational Maintenance, Section III. Repair parts authorized for organizational maintenance are included in this section.

c. Repair Parts for Direct Support, General Support and Depot Maintenance, Section IV. Repair parts authorized for direct support, general support, and depot maintenance are included in this section.

d. Special Tools, Test, and Support Equipment for Direct Support, General Support, and Depot Maintenance, Section V. Special tools, test equipment and support equipment authorized for general support, and depot maintenance are included in this section. No parts authorized at direct support maintenance.

Note. All indexes noted below are cross referenced to index numbers. The index numbers appear in ascending sequence in column 3 of the repair parts list (para D-3*c*). The index number for the particular item will be the same for the item in all sections of this publication.

e. Federal Stock Number Cross-Reference to Index Number, Section VI. This is a cross-reference index of Federal stock numbers and manufacturer's part numbers to index numbers.

f. Figure and Item Number Cross-Reference to Index Number, Section VII. This is a cross-reference index of figure number and index number (or reference designation) to index number. The figure numbers are listed in numerical sequence; item numbers and/or reference designations are listed for each figure.

g. Reference Designation Cross-Reference to Index Number, Section VIII. This is a cross-reference index of reference designations and/or item numbers to index numbers.

D-3. Explanation of Columns

An explanation of the columns is given below.

a. Source, Maintenance, and Recoverability Codes Column.

(1) *Source code column.* The selection status and source for the listed item is noted here. Source codes and their explanations are as follows:

Code	*Explanation*
P	Applies to repair parts that are stocked in or supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.

Code	*Explanation*
M	Applies to repair parts that are not procured or stocked but are to be manufactured at indicated maintenance categories.
A	Applies to assemblies that are not procured or stocked as such but are made up of two or more units, each of which carries an individual stock number and description and is procured and stocked and can be assembled by units at indicated maintenance categories.
X1	Applies to repair parts which are not procured or stocked, the requirement for which will be supplied by use of next higher assembly or component.
X2	Applies to repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain them through cannibalization; if not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels.
G	Applies to major assemblies that are procured with PEMA funds for initial issue only to be used as exchange assemblies at DSU and GSU category. These assemblies will not be stocked above DSU and GSU category or returned to depot supply category.

(2) *Maintenance code column.* The lowest category of maintenance authorized to install the listed item is noted here.

Code	*Explanation*
C	Operator/crew
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot maintenance

(3) *Recoverability code column.* The information in this column indicates whether unserviceable items should be returned for recovery or salvage. Recoverability codes and their explanations are as follows:

Note. When no code is indicated in the recoverability column, the part will be considered expendable.

Code	*Explanation*
R	Applies to repair parts and assemblies which are economically repairable at DSU and GSU activities and normally are furnished by supply on an exchange basis.
U	Applies to repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high dollar value, reusable casing or castings.

b. Federal Stock Number Column. The Federal stock number for the item is listed in this column.

c. Description Column. The index number, Federal item name, a five-digit manufacturer's code (para D–5) an indenture code, and a part number are included in this column. For subsequent appearances of the same item, the manufacturer's code and part number are omitted. The words "same as" followed by the sequence number assigned to the item when it first appeared in the list will follow the item name, e.g., "RESISTOR, FIXED, COMPOSITION: SAME AS A298." The indenture codes indicate the end item, the assemblies, and the component parts. Identical codes are parts of the preceding higher code. An asterisk indicates attaching hardware.

d. Unit of Issue Column. The unit used as a basis of issue (e.g., ea, pr, ft, yd, etc.) is indicated in this column.

e. Quantity Incorporated in Unit Pack Column. The actual quantity contained in the unit pack is noted in this column.

f. Quantity Incorporated in Unit Column. The quantity of repair parts in an assembly is given in this column. "A/R" indicates that the item may be requisitioned "as required"; however, estimated minimum quantities may be stocked to cover immediate needs.

g. Maintenance Allowances Column.

(1) The maintenance allowance columns are divided into subcolumns. Indicated in each subcolumn opposite the first appearance of the

item is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have no entry in the allowance columns but will have a reference in the description column to the first appearance of the item. Items authorized for use as required, but not for initial stockage, are identified with an asterisk in the allowance column.

(2) The quantitative allowances for organizational category of maintenance represents one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the appropriate density column to obtain the total quantity of repair parts authorized.

(3) Subsequent changes to organizational allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendation should be forwarded to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL–ME–NMP–CM, Fort Monmouth, N.J., 07703 for exception or revision to the allowance list. Revisions to the range of items authorized will be made by the USA ECOM National Maintenance Point based upon engineering experience, demand data, or TAERS information.

(4) The quantitative allowances for DS/GS categories of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

h. One-Year Allowances Per 100 Equipments/Contingency Planning Purposes Column. Opposite the first appearance of each item, the total quantity required for distribution and contingency planning purposes is indicated. The range of items indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for 1 year.

i. Depot Maintenance Allowance Per 100 Equipments Column. This column indicates the total quantity of each item authorized depot maintenance for 100 equipments. Subsequent appearances of the same item will have no entry in this column, but will have a reference in the description column to the first appearance of the item.

j. Illustration Column.

(1) *Figure number* (*a*). The number of the illustration in which the item is shown is indicated in this column.

(2) *Item No. or reference designation* (*b*). The callout number or reference designation used to reference the item in the illustration appears in this column.

D–4. Location of Repair Parts

a. This appendix contains three cross-reference indexes (secs. VI, VII, and VIII), to be used to locate a repair part when either the Federal stock number, reference number (manufacturer's part number), figure number, or reference designation is known. The first column in each cross-reference index is prepared, as applicable, in numerical or alphanumerical sequence. The last column of each cross-reference index lists the index number assigned to the part.

b. Refer to the appropriate cross-reference index (para D–2*e*, *f*, *g*), and note the index number in the last column; then refer to the repair parts list to locate the index number which is listed in ascending order in column 3 of the repair parts list.

D–5. Federal Supply Codes

This paragraph lists the Federal supply code with the associated manufacturer's name.

Code	*Manufacturer's name*
00656	Aerovox Corporation
01121	Allen-Bradley Co.
02768	Fastex Div. of Illinois Tool Works
03938	Armstrong Cork Co.
04563	Neuses PK, Inc.
10646	Carborundum Co.
21035	Gray Mfg. Co.
24446	General Electric Co.
27545	Hartford Steel Ball Co.
28520	Heyman Mfg. Co.
30323	Illinois Tool Works, Inc.
63743	Ward Electric Co.
70485	Atlantic-India Rubber Works, Inc.
71296	Canfield Rubber Co.
71400	Bussman Mfg. Division of McGraw-Edison Co.

Code	*Manufacturer's name*
71450	C.T.S. Corporation
71590	Centralab Div. of Globe-Union, Inc.
72765	Drake Mfg. Co.
72982	Erie Tech Products, Inc.
73743	Fischer Special Mfg. Co.
73957	Grov-Pin Corp.
75042	International Resistance Co., Inc.
75915	Littlefuse, Inc.
77250	Pheoll Mfg. Co.
77308	Plastic and Rubber Products Co.
77339	Positive Lockwasher Co.
78189	Shakeproof Div. Illinois Tool Works, Inc.
78553	Tinnerman Products, Inc.
78584	Stewart Stamping Corp.
79497	Western Rubber Co.
79963	Zierick Mfg. Corp.
80248	Oxford Electric Co.
81349	Military Specifications
81350	Joint Army-Navy Specifications
82042	Carter Precision Electric Co.
83486	Elco Tool & Screw Corp.
84835	Lehigh Metal Products Corp.
90816	Phalo Corp.
91929	Honeywell Inc., Micro Switch Division
93790	Cornell-Dubilier Electronics Division Federal Pacific Electric Corp.
96642	Talk, Inc.

SECTION II. PRESCRIBED LOAD ALLOWANCE

PRESCRIBED LOAD ALLOWANCE

(1) FEDERAL STOCK NUMBER	(2) DESCRIPTION	(3) 15—DAY ORG. MAINT. ALLOWANCE				(4) QTY INC IN UN PK
		(A) 1—5	(B) 6—20	(C) 21—50	(D) 51-100	
	5355 - KNOBS AND POINTERS					
5355-935-3649	A498 KNOB, VOLUME CONTROL: 21035; S034026	*	*	*	2	1
5355-935-3650	A500 KNOB, TONE CONTROL: 21035; P031363	*	*	*	2	10
	5835 - SOUND RECORDING AND REPRODUCING EQUIPMENT					
5835-314-2104	A031 FACEPIECE: 96642; FP4	*	*	*	2	6
	5920 - FUSES AND LIGHTNING ARRESTORS					
5920-199-9498	A536 FUSE, CARTRIDGE: 75915; 313.500	2	2	3	6	1
	5960 - ELECTRON TUBES, TRANSISTORS AND RECTIFYING CRYSTALS					
5960-166-7664	A526 ELECTRON TUBE: 81349; 12AX7	*	2	3	5	1
5960-228-5334	A529 ELECTRON TUBE: 81349; 35C5	2	2	4	8	1
5960-892-3421	A528 ELECTRON TUBE: 81349; 12AU6	*	2	2	3	1
	6240 - ELECTRIC LAMPS					
6240-583-9610	A165 LAMP, INCANDESCENT: 24446; 1847	*	*	2	2	10
	7490 - MISCELLANEOUS OFFICE MACHINES					
7490-089-4792	A029A EAR TIPS: 21035; P028069	*	*	2	2	2

SECTION III. REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) • QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 15 DAY ORG. MAINT. ALW. (A) 1–5	(B) 6–20	(C) 21–50	(D) 51–100	(8) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
G	C	R	7450-999-6085							A001 RECORDER-REPRODUCER SET, SOUND AN/TNH-16: 21035; (This item is nonexpendable.)	EA							1-1	
P	O		7490-089-4792							A029A EAR TIPS: 21035; P028069	EA	10	2	*	*	2	2	1-3	
P	O		5835-314-2104							A031 FACEPIECE: 96642; FP4	EA	6	1	*	*	*	2	1-2	
P	O		6240-583-9610							A165 LAMP, INCANDESCENT: 24446; 1847	EA	10	1	*	*	2	2	2-2 Ⓐ	DS1
P	O		7530-087-2901							A311 GUIDE INDEX STRIP: 21035; 031391	EA	1	1	*	*	*	*	2-2 Ⓐ	
P	O		5355-935-3649							A498 KNOB, VOLUME CONTROL: 21035; S034026	EA	1	1	*	*	*	2	2-2 Ⓐ	
P	O		5355-935-3650							A500 KNOB, TONE CONTROL: 21035; P031363	EA	10	1	*	*	*	2	2-2 Ⓐ	
P	O		5960-166-7664							A526 ELECTRON TUBE: 81349; 12AX7	EA	1	1	*	2	3	5	6-10	V2
P	O		5960-686-8085							A527 SHIELD, ELECTRON TUBE: 81350; SOS-6	EA	10	1	*	*	*	*	6-10	
P	O		5960-892-3421							A528 ELECTRON TUBE: 81349; 12AU6	EA	1	1	*	2	2	3	6-9	V1
P	O		5960-228-5334							A529 ELECTRON TUBE: 81349; 35C5	EA	1	2	2	2	4	8	6-10	V3, V4
P	O		5920-199-9498							A536 FUSE, CARTRIDGE: 75915; 313.500	EA	1	1	2	2	3	6	2-2 Ⓑ	F1

SECTION IV. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1)			(2)	(3)								(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
				MODEL											DS			GS						
(A) SOURCE CD	(B) MAINT. CD	(C) REC. CODE	FEDERAL STOCK NUMBER	1	2	3	4	5	6	IND CD	DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1–20	(B) 21–50	(C) 51–100	(A) 1–20	(B) 21–50	(C) 51–100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
G	C	R	7450-999-6085							A	A001 RECORDER-REPRODUCER SET, SOUND AN/TNH-16: 21035; (This item is nonexpendable.)	EA											1-1	
G	C		7450-999-6697							B	A002 CASE, CARRYING: 21035; P031315	EA	1	1									1-1	
G	C	R	5835-021-2521							B	A003 SWITCH, FOOT: 21035; P034217	EA	1	1									1-4	
X1	F									C	A004 BAR, RIGHT HAND TREADLE: 21035; P031476	EA	1	1									1-4	
X2	F									C	A005 SPRING, BAR RETAINER: 21035; P034049	EA	100	1									4-2	
X2	F									C	A006 ADAPTER, SWITCH ACTUATOR: 21035; P031467	EA	10	1									4-2	
X2	F									*	A007 SCREW, MACHINE: 21035; P012348	EA	100	2									4-2	
P	F		7450-059-5878							C	A008 CORD ASSEMBLY, ELECTRICAL: 21035; P030443	EA	1	1	*	2	2	*	2	2	19	3	1-4	
X1	F									C	A009 COVER, ELECTRICAL SWITCH: 21035; P031457	EA	1	1									4-2	
M	D									C	A010 PLATE, IDENTIFICATION: 21035; P034050	EA		1									1-4	
X2	F									C	A011 ROD, HINGE: 21035; P031465	EA	1	1									4-2	
X2	F									C	A012 SETSCREW, COVER ADJUSTMENT: 21035; P031459	EA	100	3										
X2	F									C	A013 SPRING, HELICAL COMPRESSION: 21035; P031458	EA	10	1										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	F									*	A014 SCREW, HINGE ROD: 21035; P034018	EA	100	2										
X2	F									C	A015 INSULATION: 21035; P034051	EA	1	2										
P	F		5930-756-0295							C	A016 SWITCH, SENSITIVE: 21035; P034052	EA	1	2	*	2	2	*	2	2	19	15	4-2	
X2	F									*	A017 SCREW, INTERIOR: 21035; P034054	EA	1	4										
X1	F									C	A018 BAR, LEFT HAND TREADLE: 21035; P031468	EA	1	1									1-4	
X2	F									C	A019 PIN, SPIRAL: 21035; P034058	EA	1	1										
X2	F									C	A020 BUMPER, RUBBER: 21035; P031469	EA	10	2										
X1	F									C	A021 BASE: 21035; P031474	EA	1	1										
X2	F									C	A022 PAD, BASE: 21035; P031477	EA	10	1										
X2	F									C	A023 PAD, COVER INSULATION: 21035; P031464	EA	1	1										
X2	F									C	A024 SPRING, COVER RETAINER: 21035; P034059	EA	1	1										
X2	F									C	A025 PLATE ASSEMBLY, ACTUATE: 21035; P034815	EA	1	2										
G	C		5835-034-5005							B	A026 DISK, SOUND RECORDING: 21035; 024215	EA	100	200									1-1	

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
G	C		7450-999-6700							B	A027 INDEX, STRIP: 21035; P025282	EA	1	5									1-1	
G	C	R	7490-600-1988							B	A029 HEADSET, ELECTRICAL: 21035; P030858	EA	1	1									1-3	
P	O		7490-089-4792							C	A029A EAR TIPS: 21035; P028069	EA	10	2	*	2	2	*	2	2	19	10	1-3	
X1	F									C	A029B HEADSET BOW: 21035; P026595	EA	1	1									1-3	
P	F		7490-089-4793							C	A029C TRANSDUCER: 21035; P030859	EA	1	1	*	*	*	*	*	*	5	5	1-3	
G	C	R	7450-064-4628							B	A030 STENO MASK: 96642; SM-7-5A	EA	1	1									1-2	
P	O		5835-314-2104							C	A031 FACE PIECE: 96642; FP-4	EA	6	1	*	2	2	*	2	2	19	10	1-2	
P	F		5965-603-4983							C	A032 MICROPHONE CARTRIDGE: 96642; P-108	EA	1	1	*	*	*	*	*	*	10	18	1-2, 6-8	MK1
P	F		7450-059-6004							C	A033 CABLE ASSEMBLY: 96642; P-109	EA	1	1	*	*	*	*	*	*	10	12	1-2	
P	F		5930-503-1764							C	A034 SWITCH: 96642; PK-105	EA	1	1	*	*	2	*	*	2	13	15	1-2, 4-3	S1
P	F		7450-836-5237							C	A035 SPRING: 96642; P-121	EA	1	1	*	*	2	*	*	2	16	7	4-3	
X2	F									C	A036 BUTTON, START-STOP: 96642; P-120	EA	1	1									1-2, 4-3	
G	C	R	5835-089-8544							B	A037 RECORDER-REPRODUCER SOUND: 21035; S031504	EA	1	1									1-1	

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
			(2) FEDERAL STOCK NUMBER	MODEL							(3) DESCRIPTION				DS			GS						
(A) SOURCE CD	(B) MAINT. C D	(C) REC. CODE		1	2	3	4	5	6	IND CD		UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1–20	(B) 21–50	(C) 51–100	(A) 1–20	(B) 21–50	(C) 51–100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
A	H	U								C	A038 MOTOR ASSEMBLY: 21035; S030021	EA	1	1									5-13, 5-41	
X2	H									*	A039 STUD, FIXED: 21035; 030038	EA	10	2										
X2	H									*	A040 STUD, ADJUSTABLE: 21035; 030040	EA	10	1										
X2	H									*	A041 WASHER, FLAT: 21035; P022116	EA	100	3										
X2	H									*	A042 STRAP, CABLE: 21035; 030488	EA	100	1										
X2	H									*	A043 TERMINAL, LUG: 79963; 20	EA	100	1										
X2	H									*	A044 NUT, PLAIN HEXAGON: 77250; 912-3309	EA	100	1										
X2	H									*	A045 NUT: 21035; P025640	EA	100	3										
P	H		3030-087-0499							D	A046 BELT, FLAT: 21035; P030049	EA	100	1				*	*	2	13	45	5-13	
P	H		4140-087-2956							D	A047 PULLEY AND FAN ASSEMBLY: ·21035; S031392	EA	10	1				*	*	*	5	3	5-13	
X2	H									*	A048 SETSCREW: 21035; P022417	EA	1	1										
X1	H									E	A049 PULLEY, FLAT: 21035; 031393	EA	100	1									5-13	
X1	H									E	A050 FAN, AXIAL: 21035; 024887	EA	1	1									5-13	

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
P	H		5330-818-4355							E	A051 GASKET: 77308; PRP-6227-5	EA	10	1				*	*	2	8	17	5-13	
M	H									D	A053 BRACKET, ANGLE: 21035; 024675	EA	10	1									5-13	
X2	H									*	A054 SCREW, MACHINE, BINDING HEAD: 77250; 128-1605	EA	100	1										
X2	H									*	A055 WASHER, SPRING TENSION: 21035; P024702	EA	100	1										
X2	H									*	A056 WASHER, FLAT: 21035; P022444	EA	100	1										
P	H		5835-021-2520							D	A056A PULLEY AND SHAFT ASSEMBLY: 21035; S030032	EA	1	1				*	*	*	5	7	5-15	
X2	H									E	A057 RING, RETAINING: 21035; P022681	EA	100	2										
X2	H									E	A058 WASHER, FLAT: 21035; P029099	EA	100	2										
X2	H									E	A059 WASHER, NON-METALLIC: 21035; P02111	EA	100	AR										
X2	H									E	A060 WASHER, NON-METALLIC: 21035; P022456	EA	100	AR										
X1	H									E	A061 PULLEY, FLAT: 21035; S030033	EA	1	1									5-15	
X2	H									E	A062 WASHER, NON-METALLIC: SAME AS A060	EA		1										
X2	H									E	A063 SHAFT, STRAIGHT: 21035; 024520	EA	10	1									5-15	

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
			(2)	MODEL							(3) DESCRIPTION				DS			GS						
(A) SOURCE CD	(B) MAINT. C D	(C) REC. CODE	FEDERAL STOCK NUMBER	1	2	3	4	5	6	IND CD		UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1–20	(B) 21–50	(C) 51–100	(A) 1–20	(B) 21–50	(C) 51–100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	H									D	A064 SCREW, MACHINE BINDING HEAD: 21035; P022454	EA	10	2										
X2	H									D	A065 SCREW, MACHINE FILLISTER HEAD: 21035; P022451	EA	100	2										
X2	H									D	A067 SCREW, MACHINE FILLISTER HEAD: 21035; P024644	EA	10	2										
M	H									D	A068 BRACKET ASSEMBLY SUPPORT: 21035; S024676	EA	1	1										
X2	H									*	A069 SCREW, MACHINE BINDING HEAD: SAME AS A054	EA		1										
X2	H									*	A070 WASHER, SPRING TENSION: SAME AS A055	EA		1										
X2	H									*	A071 WASHER, FLAT: SAME AS A056	EA		1										
X2	H									D	A072 TERMINAL, LUG: 21035; P030649	EA	100	2										
P	H		6105-089-2728							D	A073 MOTOR, ALTERNATING CURRENT: 21035; P030024	EA	1	1				*	*	*	10	3	5-13, 6-8	B1
X2	H									*	A074 SPACER, RING: 21035; 030035	EA	10	4										
X2	H									*	A075 WASHER, LOCK: 21035; P022436	EA	100	4										
X2	H									*	A076 NUT, HEXAGON: 21035; P022430	EA	100	4										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	(3) MODEL 1	2	3	4	5	6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H		5340-200-6391							D	A077 GROMMET, RUBBER: 70485; 748	EA	100	6									5-13	
M	H									D	A078 BRACKET ASSEMBLY, MOTOR MOUNTING: 21035; S030973	EA	1	1									5-13	
G	H	R	7490-600-2012							C	A079 BACKSPACE ASSEMBLY: 21035; S030971	EA	1	1									6-7	
X2	H									*	A080 SCREW, MACHINE: 21035; P026044	EA	100	1										
X2	H									*	A081 SCREW, MACHINE BINDING HEAD: SAME AS A054	EA		1										
X2	H									*	A082 SCREW, CAP, SOCKET HEAD: 21035; P033841	EA	10	2										
X2	H									*	A083 WASHER, LOCK: 21035; P022428	EA	100	2										
A	H	U								D	A084 BACKSPACE ASSEMBLY: 21035; S030071	EA	1	1									6-7	
X2	H									*	A085 SCREW, MACHINE: 21035; P024642	EA	100	2										
X2	H									*	A086 WASHER, LOCK: SAME AS A083	EA		2										
P	H		5905-185-6580							E	A087 RESISTOR, FIXED COMPOSITION: 21035; P010545	EA	10	1				*	*	2	13	7	6-8	R18
P	H		5910-034-5540							E	A088 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 71590; DA-049-145-B	EA	10	1				*	2	2	19	5	6-8	C9
X2	H									E	A089 SPRING, HELICAL EXTENSION: 21035; P026060	EA	10	1										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									E	A090 SHAFT, STRAIGHT: 21035; 025982	EA	1	1										
X2	H									*	A091 RING, RETAINING: 21035; P024983	EA	100	2										
X2	H									E	A092 ARM, BACKSPACE: 21035; S031385	EA	10	1										
X2	H									E	A093 NUT, HEXAGON: 77250; 913-1003	EA	100	1										
X2	H									E	A094 SETSCREW: 21035; P025345	EA	100	1										
P	H		5950-027-2938							E	A095 COIL, SOLENOID: 21035; S029319	EA	1	1				*	*	*	10	5	6-7, 6-8	L2
X2	H									E	A096 TERMINAL LUG: SAME AS A072	EA		2										
X2	H									E	A097 INSULATION SLEEVING, ELECTRICAL: 21035; P022397	IN	10	8										
X2	H									E	A098 INSULATION: 21035; P022184	IN	10	4										
X2	H									E	A099 WIRE, ELECTRICAL: 21035; P029402	IN	12	13										
X2	H									E	A100 WIRE, ELECTRICAL: 21035; P022492	IN	12	7										
X1	H									E	A101 BRACKET AND TERMINAL: 21035; S020072	EA	1	1										
P	H		5835-015-9559							D	A103 BAND, BRAKE: 21035; S026413	EA	10	1				*	*	*	5		6-7	

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	(7) DS (B) 21–50	(7) DS (C) 51–100	(7) GS (A) 1–20	(7) GS (B) 21–50	(7) GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									*	A104 NUT, HEXAGON: SAME AS A093	EA		3										
X2	H									*	A105 STUD, TURNLOCK FASTENER: 21035; 026170	EA	1	1										
X2	H									*	A106 NUT, HEXAGON: 21035; P026172	EA	100	1										
X2	H									D	A107 GEARSHAFT, WORM WHEEL: 21035; P026134	EA	1	1										
X2	H									*	A108 SCREW, CAP, SOCKET HEAD: 21035; P022912	EA	100	1										
X2	H									*	A109 WASHER, LOCK: 21035; P022452	EA	100	1										
P	H		5835-016-0024							D	A110 FRICTION CYLINDER AND RACHET HUB ASSEMBLY: 21035; S030986	EA	1	1				*	*	*	5	4	6-7	
X2	H									*	A111 SETSCREW: 21035; P022414	EA	100	2										
X2	H									D	A112 SPRING, HELICAL, EXTENSION: 21035; P026086	EA	10	1										
P	H		5835-054-3318							D	A113 PAWL: 21035; 025967	EA	1	1				*	*	*	5	3	5-1	
X2	H									*	A114 RING, RETAINING: SAME AS A091	EA		1										
X2	H									D	A115 SPRING, HELICAL COMPRESSION: 21035; P025968	EA	1	1										
X2	H									D	A116 SETSCREW: 21035; P022438	EA	100	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	(7) DS (B) 21–50	(7) DS (C) 51–100	(7) GS (A) 1–20	(7) GS (B) 21–50	(7) GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									D	A117 SETSCREW: 21035; P022470	EA	100	1										
X2	H									D	A118 PAWL CARRIER ASSEMBLY: 21035; S031412	EA	1	1									6-7	
M	H									D	A119 BRACKET BACKSPACE ASSEMBLY: 21035; S030984	EA	1	1									5-2	
M	H									C	A120 ROD: 21035; P030111	EA	10	1										
X2	H									*	A121 RING, RETAINING: SAME AS A057	EA		1										
X2	H									*	A122 WASHER, SPRING TENSION: 78189; 3502-10-19-0541	EA	100	1										
X2	H									C	A123 CRADLE: 21035; S031256	EA	1	1										
P	H		5355-935-3648							C	A124 KNOB ASSEMBLY: 21035; S033884	EA	1	1				*	*	*	5	6	2-2 Ⓐ	
X1	H									D	A125 KNOB ASSEMBLY: 21035; S031366	EA	10	1										
X1	H									*	A126 SETSCREW: 21035; P022421	EA	10	1										
M	H									C	A127 COVER, TOP: 21035; S030127	EA	100	1									2-2 Ⓐ	
X2	H									C	A128 CHUTE, PERFORATE: 21035; 030102	EA	1	1										
X2	H									*	A129 CLIP, RETAINING: 21035; P030114	EA	100	1										

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
				MODEL											DS			GS						
(A) SOURCE CD	(B) MAINT. CD	(C) REC. CODE	(2) FEDERAL STOCK NUMBER	1	2	3	4	5	6	IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50	(C) 51-100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	H									C	A130 RECEIVER, PERFORATE: 21035; 030103	EA	10	1										
P	H		5910-089-0021							C	A131 CAPACITOR, FIXED CERAMIC, DIELECTRIC: 93790, BYA6T47M	EA	10	1				*	2	2	46	6	5-30, 6-8	C17
X2	H									C	A132 TUBING: 21035; P025189	IN	10	2										
X2	H									C	A133 TERMINAL, LUG: 78189; 2102-06-00	EA	100	1										
X2	H									C	A134 SCREW, MACHINE, PHILLIPS BINDING HEAD: 83486; 35-07-04018	EA	100	5										
X2	H									C	A135 TERMINAL BOARD: 21035; S031506	EA	1	1									5-30	
X2	H									*	A136 SCREW, TAPPING, THREAD CUTTING PHILLIPS FILLISTER HEAD: 83486; 54-03-06-100	EA	100	3										
X2	H									D	A137 TERMINAL, LUG: 79963; 332	EA	100	7										
X2	H									D	A138 TERMINAL BOARD: 21035; S030247	EA	10	1										
X2	H									C	A139 TERMINAL BOARD: 21035; S030693	EA	10	1									5-30	
X2	H									*	A140 NUT, HEXAGON: 77250; 913-1603	EA	100	2										
X2	H									*	A141 WASHER, FLAT: SAME AS A056	EA		2										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									*	A142 SCREW ASSEMBLED WASHER: 83486; 45-04-04060	EA	100	3										
X2	H									D	A143 TERMINAL: 21035; 030694	EA	10	3										
X2	H									D	A144 TERMINAL BOARD: 21035; S022163	EA	10	1										
X2	H									C	A145 COVER, INSULATION: 21035; 022291	EA	10	1										
X2	H									*	A146 CLIP, SPRING TENSION: 21035; P024639	EA	10	1										
X2	H									C	A147 WIRE, ELECTRICAL: SAME AS A100	IN		2										
X2	H									C	A148 TUBING, PLASTIC: 21035; P022396	IN	10	6										
P	H		5930-061-5950							C	A149 SWITCH, LEVER: 21035; P033400	EA	1	1				*	*	2	13	10	6-8	S4-1
P	H		5930-828-7889							C	A150 SWITCH, LEVER: 21035; P034151	EA	1	1				*	*	2	13	10	6-8	S4-2
X2	H									*	A151 SCREW, TAPPING, THREAD CUTTING PHILLIPS BINDING HEAD: 21035; P024576	EA	100	1										
X2	H									*	A152 WASHER, FLAT: SAME AS A056	EA		1										
X2	H									*	A153 WASHER, LOCK: 77339; 1206-00	EA	100	1										
X2	H									C	A154 ANCHOR SPRING: 21035; 024634	EA	100	2										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									*	A155 SCREW ASSEMBLED WASHER: 21035; P028593	EA	100	2										
X2	H									*	A156 WASHER, LOCK: SAME AS A153	EA		2										
P	H		7450-060-3784							C	A157 SPRING, HELICAL EXTENSION: 21035; P022011	EA	10	2				*	2	2	27	10	5-37	
X2	H									C	A158 PIN, STRAIGHT, HEADLESS: 21035; 022012	EA	100	2										
X2	H									C	A159 TUBING, PLASTIC: 21035; P012309	IN	10	5										
X2	H									C	A160 LIGHT, INDICATOR: 21035; S033889	EA	1	1									2-2 Ⓐ	
X2	H									*	A161 SCREW, ASSEMBLED WASHER: 21035; P028507	EA	100	1										
X2	H									*	A162 WASHER, LOCK: SAME AS A153	EA		1										
X2	H									*	A163 CLIP, RETAINING: 21035; P024607	EA	10	2										
X2	H									D	A164 LAMPHOLDER: 72765; 238M-CX	EA	10	1										
P	O		6240-583-9610							D	A165 LAMP, INCANDESCENT: 24446; 1847	EA	10	1	*	2	2	*	2	2	19	75	2-2 Ⓐ o-8	DS1
X2	H									D	A166 WIRE, ELECTRICAL: 21035; P029406	IN	12	3										
X2	H									D	A167 WIRE, ELECTRICAL: 21035; P022496	IN	12	3										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									D	A168 TUBING, PLASTIC: 21035; P025211	IN	10	2										
X2	H									D	A169 INSULATION: SAME AS A098	EA		2										
P	H		5905-021-2597							D	A170 RESISTOR, THERMAL: 10646; 479H-1	EA	1	1				*	*	2	13	4	6-8	R21
X2	H									D	A171 TERMINAL BOARD: 21035; S033266	EA	10	1										
M	H									C	A172 BRACKET, LIGHT RETAINER: 21035; 029147	EA	10	1										
X2	H									*	A173 SCREW, MACHINE PHILLIPS BINDING HEAD: 21035; P026143	EA	100	1										
X2	H									*	A174 WASHER, LOCK: SAME AS A153	EA		1										
X2	H									*	A175 SPACER, PLATE: 21035; 030116	EA	10	1										
X2	H									C	A176 LEVER ASSEMBLY: 21035; S031416	EA	1	1									5-37	
X2	H									*	A177 RING, RETAINING: 21035; P022853	EA	100	1										
P	H		5355-089-5526							D	A178 KNOB: 21035; P031415	EA	10	1				*	*	*	5	6	5-37	
X2	H									*	A179 SCREW, MACHINE PHILLIPS FLATHEAD: 21035; P022546	EA	100	1										
X2	H									D	A180 LEVER ASSEMBLY: 21035; S026360	EA	1	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	H									D	A181 LEVER ASSEMBLY: 21035; S022277	EA	10	1										
X2	H									*	A182 SCREW, MACHINE PHILLIPS FILLISTER HEAD: 21035; P024756	EA	100	2										
X2	H									*	A183 WASHER, LOCK: 21035; P022433	EA	100	2										
A	H	U								C	A184 RECORDER-REPRODUCER HEAD ASSEMBLY: 21035; S033403	EA	1	1									5-2	
X2	H									*	A185 SCREW, CAP, SOCKET HEAD, BUTTON HENRY: 21035; P030789	EA	10	3										
X2	H									*	A186 WASHER, FLAT: SAME AS A056	EA		2										
X2	H									D	A187 SPRING, FLAT: 21035; P012900	EA	10	1										
X2	H									D	A188 HOUSING, STUD: 21035; S031355	EA	10	1										
X2	H									*	A189 SCREW, MACHINE PHILLIPS BINDING HEAD: 21035; P022426	EA	100	1										
X2	H									*	A190 WASHER, LOCK: SAME AS A153	EA		1										
X2	H									D	A191 SPACER, SLEEVE: 21035; 034223	EA	10	1										
X2	H									D	A192 RETAINER, HELICAL COMPRESSION SPRING: 21035; S031354	EA	10	1										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
X2	H									*	A193 SCREW, MACHINE PHILLIPS FLATHEAD: SAME AS A179	EA		1										
P	H		7450-060-3785							D	A194 LEAD ASSEMBLY: 21035; S033404	EA	1	1				*	*	*	5	3	5-2	
X1	H									E	A195 TERMINAL, LUG: 21035; P030269	EA	100	3										
X1	H									E	A196 CABLE SPECIAL PURPOSE ELECTRICAL: 21035; P030142	IN	10	5										
X2	H									E	A197 TUBING, PLASTIC: SAME AS A148	IN		5										
X2	H									E	A198 INSULATION SLEEVING ELECTRICAL: SAME AS A097	IN		4										
P	H		5835-034-4994							D	A199 SPRING, HELICAL EXTENSION: 21035; P030152	EA	100	1				*	*	2	16	10	5-3	
X2	H									D	A200 GUIDE: 21035; 031348	EA	10	1										
X2	H									*	A201 SCREW, MACHINE PHILLIPS BINDING HEAD: 21035; P024757	EA	100	1										
X2	H									*	A202 WASHER, FLAT: 21035; P031548	EA	100	1										
X2	H									D	A203 STYLUS GUARD: 21035; P030645	EA	100	1									5-3	
P	H		7450-935-0147							D	A204 CARTRIDGE SOUND REPRODUCER: 21035; P030695	EA	1	1				*	*	*	10	5	6-9	PU1
X1	H									E	A204A CARTRIDGE REPEATER: 21035; P30696	EA	1	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
P	H		5835-034-4976							E	A204B STYLUS, REPRODUCER: 21035; P30697	EA	1	1				*	2	2	12	10	5-6	
X2	H									*	A205 SCREW, MACHINE PHILLIPS BINDING HEAD: 21035; P022402	EA	100	1										
X2	H									*	A206 SCREW, MACHINE PHILLIPS BINDING HEAD: 21035; P025186	EA	100	1										
X2	H									*	A207 WASHER, LOCK: 21035; P024630	EA	100	1										
X2	H									D	A208 PIN, SHOULDER, HEADED: 21035; 031353	EA	10	1										
X2	H									*	A209 NUT, HEXAGON: 21035; P028330	EA	100	1										
X2	H									*	A210 WASHER, LOCK: SAME AS A207	EA		1										
X2	H									*	A211 WASHER, FLAT: 21035; P029379	EA	100	1										
X2	H									D	A212 TONE ARM ASSEMBLY: 21035; S030143	EA	10	1									5-2	
X2	H									D	A213 SPRING, HELICAL, EXTENSION: 21035; P031352	EA	100	1										
X2	H									D	A214 LEVER, RECORDER LIFT: 21035; 028729	EA	10	1									5-2	
X2	H									*	A215 SCREW, ASSEMBLED WASHER: 21035; P028515	EA	100	1										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									*	A216 SCREW ASSEMBLED WASHER: SAME AS A142	EA		1										
X2	H									D	A217 RECORDER MOUNTING BRACKET: 21035; 030153	EA	1	1									5-2	
X2	H									*	A218 NUT, HEXAGON: SAME AS A093	EA		2										
X2	H									*	A219 SETSCREW: 21035; P030284	EA	100	2										
X2	H									*	A220 SCREW, MACHINE PHILLIPS BINDING HEAD: SAME AS A205	EA		2										
X2	H									*	A221 WASHER, LOCK: SAME AS A207	EA		2										
X2	H									D	A222 NUT HEXAGON: SAME AS A093	EA		1										
X2	H									D	A223 SETSCREW: 21035; P012315	EA	100	1										
M	D									D	A224 RECORDER AND REPRODUCER BRACKET ASSEMBLY: 21035; S031349	EA	1	1										
X2	H									E	A225 PIN, SHOULDER, HEADLESS: 21035; 028716	EA	10	1										
X2	H									*	A226 NUT, HEXAGON: SAME AS A140	EA		1										
X2	H									*	A227 WASHER, LOCK: SAME AS A083	EA		1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
				MODEL											DS			GS						
(A) SOURCE CD	(B) MAINT. CD	(C) REC. CODE	(2) FEDERAL STOCK NUMBER	1	2	3	4	5	6	IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50	(C) 51-100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
M	H									E	A228 SUPPORT RECORDER AND REPRODUCER BRACKET: 21035; S031350	EA	1	1										
X2	H									D	A229 SPRING, HELICAL, TORSION: 21035; P030158	EA	10	1										
P	H		5835-010-4307							D	A230 RECORDER HEAD ASSEMBLY: 21035; S030700	EA		1				*	2	2	19	5	6-10	PU2

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	(7) DS (B) 21–50	(7) DS (C) 51–100	(7) GS (A) 1–20	(7) GS (B) 21–50	(7) GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									C	A244 SPRING, HELICAL, TORSION: 21035; P031344	EA	10	1										
X2	H									C	A245 SHIELD, HEAT: 21035; 033017	EA	10	1									5-9	
A	H									C	A246 START AND STOP SOLENOID ASSEMBLY: 21035; S033886	EA	1	1									5-2	
X2	H									*	A247 SCREW, ASSEMBLED WASHER: 21035; P028527	EA	100	2										
X2	H									D	A248 PIN, STRAIGHT, HEADLESS: 21035; P031323	EA	10	1										
X2	H									D	A249 PLUNGER, DETENT: 21035; 031322	EA		1										
A	H									D	A250 START AND STOP SWITCH: 21035; S033887	EA	1	1									5-2	
X2	H									*	A251 NUT, HEXAGON: 21035; P028928	EA	100	2										
X2	H									E	A252 WIRE, ELECTRICAL: 21035; P022499	IN	10	2										
X2	H									E	A253 WIRE, ELECTRICAL: 21035; P029405	IN	10	4										

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									E	A254 TUBING PLASTIC: SAME AS A159	IN		1										
X1	H									E	A256 TERMINAL, LUG: SAME AS A195	ea		2										
P	H		5930-061-5951							E	A257 SWITCH, LEVER: 21035; P033855	EA	1	1				*	*	2	13	10	6-8	S2
X2	H									D	A258 SPRING, HELICAL EXTENSION: 21035; P033539	EA	10	1										
X2	H									D	A259 BRACKET, SOLENOID MOUNTING: 21035; 033858	EA	1	1										
X2	H									*	A260 SCREW, MACHINE, PHILLIPS BINDING HEAD: 21035; P028481	EA	100	1										
X2	H									*	A261 SCREW, ASSEMBLED WASHER: SAME AS A142	EA		1										
X2	H									D	A262 ACTUATOR ASSEMBLY: 21035; S033012	EA	1	1									5-9, 6-8	
X2	H									*	A263 SCREW, MACHINE: 21035; 031339	EA	10	2										
X2	H									D	A264 SPACER, PLATE: 21035 031543	EA	10	1										
P	H		5945-053-1533							D	A265 SOLENOID, ELECTRICAL: 21035; P033856	EA	1	1				*	*	*	10	5		L1

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									*	A266 SCREW, MACHINE PHILLIPS FLATHEAD: 21035; P022405	EA	100	2										
A	H									C	A267 PRESS ROLLER ASSEMBLY: 21035; S031325	EA	1	1									5-8	
X2	H									*	A268 NUT, SELF-LOCKING, HEXAGON: 21035; P031546	EA	100	1										
X2	H									*	A269 STUD, SHOULDERED AND STEPPED: 21035; 031545	EA	1	1										
X2	H									*	A270 SCREW ASSEMBLED WASHER: SAME AS A247	EA		1										
X2	H									D	A271 SPRING, HELICAL, EXTENSION: 21035; P033148	EA	10	1										
X2	H									D	A272 LEVER LIFT: 21035; 031340	EA	10	1										
X2	H									*	A273 SCREW, MACHINE PHILLIPS BINDING HEAD: SAME AS A134	EA		2										
X2	H									D	A274 ARM & CAM ASSEMBLY: 21035; S031326	EA	1	1									5-7	
X2	H									*	A275 SCREW, YOKE PIVOT 21035; 026640	EA	10	1										
X2	H									*	A276 NUT, HEXAGON: SAME AS A140	EA		2										
X2	H									*	A277 PIN, PIVOT: 21035; 031758	EA	10	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									*	A278 WASHER, FLAT: 21035; P026641	EA	100	2										
X2	H									*	A279 SCREW, MACHINE BINDING HEAD: SAME AS A054	EA		1										
X2	H									*	A280 WASHER, FLAT: 21035; P033776	EA	10	1										
X2	H									D	A281 BRACKET, ARM & CAM ASSEMBLY: 21035; 031328	EA	10	1										
P	H		5835-826-5427							D	A282 PRESS ROLLER: 21035; S031330	EA	1	1				*	*	*	10	10	5-7	
P	H		5835-010-4453							D	A283 PIVOT, ECCENTRIC: 21035; 033775	EA	1	1				*	*	*	10	10	5-7	
P	H		5835-054-3311							D	A284 ECCENTRIC, ROLLER ARM: 21035; S033773	EA	10	1				*	*	*	10	10	5-7	
X2	H									C	A285 LEVER ACTUATOR: 21035; 031345	EA	1	1										
X2	H									*	A286 RING RETAINING: 21035; P010854	EA	100	1										
P	H		5835-054-3302							C	A287 COMPENSATOR ASSEMBLY: 21035; S030290	EA	1	1				*	*	*	5	8	5-11	
X2	H									*	A288 SCREW, MACHINE PHILLIPS FLAT HEAD: 21035; P022443	EA	100	2										
X2	H									D	A289 SPRING, HELICAL, EXTENSION: 21035; P033872	EA	10	1										
X2	H									D	A290 SCREW, SPRING ADJUST: 21035; 024019	EA	10	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1)			(2)	(3) MODEL							(3)	(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
(A) SOURCE CD	(B) MAINT. CD	(C) REC. CODE	FEDERAL STOCK NUMBER	1	2	3	4	5	6	IND CD	DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	H									D	A291 NUT, HEXAGON: SAME AS A093	EA		1										
X2	H									D	A292 STOP, COMPENSATOR: 21035; S031889	EA	10	1										
X2	H									*	A293 SCREW CAP, SOCKET HEAD: 21035; P033825	EA	10	1										
X2	H									*	A294 WASHER, FLAT: 21035; P024514	EA	100	1										
X2	H									D	A295 PIN, STRAIGHT, HEADLESS: 21035; P025213	EA	10	2										
X2	H									D	A296 PIN, STRAIGHT, HEADLESS: 21035; P025212	EA	10	1										
X2	H									D	A297 SPACER, SLEEVE: 21035; 025218	EA	10	2										
X1	H									D	A298 ROLLER, COMPENSATOR: 21035; 025210	EA	1	3										
X2	H									D	A299 SPACER, SLEEVE: 21035; 05217	EA	10	1										
X2	H									D	A300 SPRING, HELICAL, COMPRESSION: 21035; P025223	EA	10	1										
X1	H									D	A301 COMPENSATOR ROCKER ASSEMBLY: 21035; S026349	EA	1	1										
X1	H									D	A302 COMPENSATOR ROCKER ASSEMBLY: 21035; S033804	EA	1	1										
X2	H									C	A303 BUTTON, PLUG: 02768; 207-120551	EA	100	1										

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									C	A304 SPRING, HELICAL, EXTENSION: 21035; P031381	EA	10	1										
A	H	U								C	A305 MAIN & UPPER ASSEMBLY: 21035; S034046	EA	1	1									5-1, 5-2	
X2	H									*	A306 SCREW, TRUSS HEAD: 21035; P029217	EA	100	3										
X2	H									D	A307 PLATE, LOCK: 21035; 030277	EA	100	2										
X2	H									*	A308 RING, RETAINING: SAME AS A177	EA		2										
X2	H									*	A309 WASHER SPRING TENSION: 30323; 3502-12-01-0511	EA	100	2										
X2	H									*	A310 STUD: 21035; 030260	EA	10	2										
P	O		7530-087-2901							D	A311 GUIDE, INDEX STRIP: 21035; 031391	EA	1	1	*	*	*	*	*	*	10	5	2-2 Ⓐ	
X2	H									*	A312 RIVET, SPLIT: 02768; 201-161341-01-0109	EA	100	3										
X2	H									*	A313 STUD, INDEX STRIP: 21035; 030023	EA	10	2										
X2	H									*	A314 WASHER FLAT: 21035; P022613	EA	100	4										
X2	H									D	A315 BUTTON PLUG: 21035; 030018	EA	10	1										
X2	H									D	A316 PUNCH ASSEMBLY: 21035; S031798	EA	1	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									*	A317 SCREW, PHILLIPS FLAT HEAD: 21035; P028208	EA	100	1										
X2	H									E	A318 TUBING, PLASTIC: SAME AS A148	IN		1										
X2	H									E	A319 BRACKET, SOLENOID: 21035; 030739	EA	100	1										
X2	H									*	A320 SCREW, MACHINE PHILLIPS BINDING HEAD: SAME AS A134	EA		1										
X2	H									*	A321 WASHER, FLAT: SAME AS A294	EA		1										
X2	H									E	A322 PUNCH, INDEX: 21035; 030738	EA	10	2										
X2	H									E	A323 SPRING, HELICAL COMPRESSION 21035; P032981	EA	10	2										
X2	H									*	A324 RING, RETAINING: 21035; P030195	EA	100	2										
X2	H									*	A325 WASHER, FLAT: 21035; P030445	EA	10	2										
X2	H									E	A326 CLAPPER SOLENOID: 21035; 030395	EA	10	1										
X2	H									E	A327 CLAPPER, END SOLENOID: 21035; 030396	EA	10	1										
X2	H									*	A328 NUT, SELF-LOCKING, HEXAGON: 21035; P022889	EA	100	2										
X2	H									*	A329 WASHER, FLAT: SAME AS A294	EA		4										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									E	A330 PLUNGER, SOLENOID: 21035; 030198	EA	1	2										
X2	H									E	A331 SETSCREW: 21035; P022906	EA	100	1										
X2	H									E	A332 NUT, HEXAGON: SAME AS A140	EA		1										
X2	H									E	A333 PUNCH SOLENOID ASSEMBLY: 21035; S030899	EA	1	1										
X2	H									D	A334 CHANGE OVER SWITCH ACTUATOR: 21035; S034044	EA	10	1									5-2	
X2	H									*	A335 SCREW, MACHINE PHILLIPS BINDING HEAD: 21035; P022442	EA	100	1										
X2	H									*	A336 WASHER, SPRING TENSION: SAME AS A122	EA		1										
X2	H									E	A337 ACTUATOR: 21035; 031617	EA	1	1									5-2	
X2	H									*	A338 NUT, HEXAGON: SAME AS A093	EA		2										
X2	H									*	A339 WASHER, LOCK: 21035; P022741	EA	100	2										
X2	H									*	A340 SCREW, MACHINE, PHILLIPS BINDING HEAD: 83486; PBH 35-07-04062	EA	100	2										
X2	H									E	A341 SPACER, SLEEVE: 21035; 029439	EA	100	2										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									D	A342 SPACER, SLEEVE: 21035; 030170	EA	10	1										
X2	H									D	A343 CAM ASSEMBLY: 21035; S030119	EA	1	1									5-22	
X2	H									D	A344 TERMINAL, LUG: 78584; 917	EA	100	1										
X2	H									D	A345 PULLEY ASSEMBLY: 21035; S024933	EA	1	1									5-1	
X2	H									*	A346 SCREW, TAPPING, THREAD CUTTING PHILLIPS FILLISTER HEAD: SAME AS A136	EA		1										
X2	H									D	A347 TERMINAL LUG: SAME AS A043	EA	100	1										
X2	H									*	A348 SCREW, ASSEMBLED WASHER: 21035; P028505	EA	100	1										
X2	H									D	A349 SPROCKET ASSEMBLY: 21035; S030400	EA	1	1									5-22	
X2	H									*	A350 SCREW, ASSEMBLED WASHER: SAME AS A247	EA		3										
P	H		4010-087-2908							E	A351 WIRE CORD: 21035; 022698	EA	10	1				*	*	*	10	3	5-22	
X2	H									E	A352 SPROCKET CAMSHAFT: 21035; S028551	EA		1										
X2	H									*	A353 RING, RETAINING: SAME AS A057	EA		1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									*	A354 WASHER, FLAT: 84835; PL-10	EA	100	1										
X2	H									E	A355 WASHER, NON-METALLIC: 21035; P030907	EA	100	1										
X2	H									E	A356 PLATE, HUB ASSEMBLY: 21035; S030401	EA	10	1										
X2	H									E	A357 NUT, HEXAGON: SAME AS A140	EA		1										
X2	H									E	A358 SETSCREW: 21035; P022909	EA	100	1										
X2	H									D	A359 PULLEY ASSEMBLY: 21035; S025441	EA	1	1										
X2	H									*	A360 RING, RETAINING: SAME AS A057	EA		1										
X2	H									*	A361 WASHER, FLAT: SAME AS A354	EA		1										
X2	H									E	A362 PULLEY AND SHAFT: 21035; S025447	EA	10	1										
X2	H									E	A363 PULLEY HUB: 21035; S025442	EA	1	1										
X2	H									D	A364 BRACKET, DOUBLE ANGLE: 21035; 029057	EA	100	3										
X2	H									D	A365 BRACKET DOUBLE ANGLE: 21035; 029059	EA	10	1										
X2	H									D	A366 TERMINAL, LUG: SAME AS A043	EA		2										

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
			(2)	MODEL							(3)				DS			GS						
(A) SOURCE CD	(B) MAINT. C D	(C) REC. CODE	FEDERAL STOCK NUMBER	1	2	3	4	5	6	IND CD	DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1–20	(B) 21–50	(C) 51–100	(A) 1–20	(B) 21–50	(C) 51–100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
P	H		5835-997-4680							D	A367 CARRIAGE ASSEMBLY: 21035; S022136	EA	1	1				*	*	*	10	5	5-21	
X2	H									*	A368 SCREW, ASSEMBLED WASHER: 21035; P028592	EA	100	4										
X2	H									E	A369 BUMPER, RUBBER: 21035; P032192	EA	100	1										
X2	H									E	A370 BRACKET, DOUBLE ANGLE: 21035; S022212	EA	10	1										
X2	H									*	A371 SCREW, ASSEMBLED WASHER: 21035; P028502	EA	1	1										
X2	H									*	A372 SCREW, MACHINE PHILLIPS FILLISTER HEAD: 21035; P025049	EA	100	1										
X2	H									*	A373 WASHER, LOCK: 77339; 418	EA	100	1										
X2	H									*	A374 NUT, HEXAGON: SAME AS A093	EA		1										
X2	H									E	A375 NUT, HEXAGON: SAME AS A140	EA		2										
X2	H									E	A376 SETSCREW: SAME AS A116	EA		2										
X2	H									E	A377 BRACKET, DOUBLE ANGLE: 21035; 022211	EA	10	1										
X2	H									*	A378 SCREW, ASSEMBLED WASHER: SAME AS A371	EA		2										
X2	H									E	A379 BALL BEARING: 21035; P022344	EA	100	3										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									E	A380 BRACKET, CORD GUIDE: 21035; 022657	EA	10	1										
X2	H									*	A381 SCREW, CAP, SOCKET HEAD: 21035; P033826	EA	10	1										
X2	H									E	A382 COLLAR, TENSION ADJUST: 21035; 022656	EA	10	1									5-22	
X2	H									*	A383 SCREW CAP, SOCKET HEAD: 21035; P033828	EA	10	1										
X2	H									*	A384 WASHER, LOCK: 21035; P022439	EA	100	1										
X2	H									E	A385 SPRING, FLAT: 21035; P026310	EA	100	1										
X2	H									E	A386 NUT, HEXAGON: SAME AS A093	EA		1										
X2	H									E	A387 SETSCREW: SAME AS A094	EA		1										
X1	H									E	A387A CARRIAGE FEED SCREW: 21035; 22269	EA	1	1										
X1	H									E	A388 SHAFT, DRIVE ASSEMBLY: 21035; P022015	EA	1	1										
X2	H									*	A389 PIN, GROOVE: 21035; P022369	EA	100	1										
X2	H									E	A390 SPACER, SLEEVE: 21035; 030435	EA	10	1										
X1	H									E	A391 GEAR, WORM: 21035; P030444	EA	1	1										
X1	H									E	A392 CARRIAGE FRAME ASSEMBLY: 21035; S030432	EA	1	1										

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
															DS			GS						
(A) SOURCE CD	(B) MAINT. C D	(C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1–20	(B) 21–50	(C) 51–100	(A) 1–20	(B) 21–50	(C) 51–100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	H									D	A393 PIN, STRAIGHT, HEADLESS: 21035; 024612	EA	10	1										
X2	H									D	A394 PIN, STRAIGHT, HEADLESS: 21035; 024613	EA	10	1										
X2	H									D	A395 SPRING, HELICAL, COMPRESSION: 21035; P029058	EA	100	1										
X2	H									D	A396 NUT, HEXAGON: SAME AS A093	EA		1										
X2	H									D	A397 SETSCREW: SAME AS A117	EA		1										
P	F		3030-087-0499							D	A398 BELT, FLAT: SAME AS A046	EA		1									5-13	
X2	H									D	A399 DRIVE PULLEY ASSEMBLY: 21035; S033882	EA	1	1									5-1	
X2	H									E	A400 PULLEY, FLAT: 21035; 033526	EA	1	1										
X2	H									*	A401 SETSCREW: SAME AS A048	EA		1										
X2	H									D	A402 DRIVE COLLAR ASSEMBLY: 21035; S033885	EA	10	1										
X2	H									E	A403 COLLAR, SHAFT: 21035; 022141	EA	10	1										
X2	H									*	A404 SETSCREW: 21035; P022408	EA	100	1										
X2	H									D	A405 WASHER, NONMETALLIC: SAME AS A059	EA		2										

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
				MODEL											DS			GS						
(A) SOURCE CD	(B) MAINT. CD	(C) REC. CODE	(2) FEDERAL STOCK NUMBER	1	2	3	4	5	6	IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1–20	(B) 21–50	(C) 51–100	(A) 1–20	(B) 21–50	(C) 51–100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	H									D	A406 HUB & CAM ASSEMBLY: 21035; S034022	EA	1	1										
X2	H									E	A407 CAM & HUB: 21035, S030063	EA	10	1										
X2	H									E	A408 SETSCREW: SAME AS A404	EA		1										
X2	H									D	A409 RING, RETAINING: SAME AS A057	EA		1										
X2	H									D	A410 SPACER, SLEEVE: 21035; 030060	EA	10	1										
X2	H									D	A411 DISC ASSEMBLERS: 21035; S034021	EA	1	1										
X2	H									E	A412 SPRING, HELICAL, TORSION: 21035; P030059	EA	10	1										
X2	H									E	A413 HAMMER, SIGNAL: 21035; 030054	EA	10	1										
X2	H									*	A414 RING, RETAINING: SAME AS A286	EA		1										
X2	H									E	A415 WASHER, FLAT: SAME AS A278	EA		1										
X2	H									E	A416 DISC, DRIVING ASSEMBLY: 21035; S030064	EA	1	1										
X2	H									D	A417 DRIVE ROLLER ASSEMBLY: 21035; S033883	EA	1	1										
P	H		7450-059-5903							D	A418 SHAFT, STRAIGHT: 21035; 030065	EA	10	1				*	*	*	10	1	5-1	
X2	H									D	A419 SWITCH ASSEMBLY: 21035; S034023	EA	1	1										

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW.						(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS	
(A) SOURCE CD	(B) MAINT. CD	(C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL						IND CD	(3) DESCRIPTION				DS			GS					(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
				1	2	3	4	5	6						(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50	(C) 51-100				
X2	H									*	A420 SCREW, CAP, SOCKET HEAD: 21035; P033846	EA	10	1										
X2	H									E	A421 TERMINAL, LUG: SAME AS A072	EA		2										
X2	H									E	A422 WIRE, ELECTRICAL: SAME AS A100	IN		10										
X2	H									E	A423 WIRE, ELECTRICAL: 21035; P022502	IN	10	10										
X2	H									E	A424 WIRE, ELECTRICAL: 21035; P022493	IN	10	10										
X2	H									E	A425 TUBING, PLASTIC: 21035; P024041	IN	10	8										
X2	H									E	A426 SWITCH, SENSITIVE AND ACTUATOR: 91929; JS-6	EA	10	1										
X2	H									*	A427 SCREW, MACHINE PHILLIPS FILLISTER HEAD: 21035; P012917	EA	100	2										
X2	H									E	A428 SWITCH, SENSITIVE: 91929; 11SM1	EA	1	1									6-8	S5
X2	H									E	A429 INSULATOR, PLATE: 21035; 031380	EA	100	1										
X2	H									E	A430 BASE, SWITCH: 21035; 031729	EA	10	1										
X2	H									E	A431 BRACKET, SWITCH MOUNTING: 21035; 031379	EA	10	1										
X2	H									D	A432 ACTUATOR, CRADLE SWITCH: 21035; S034027	EA	1	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									E	A433 ARM, SWITCH ACTUATOR: 21035; S031373	EA	1	1										
X2	H									*	A434 SETSCREW: SAME AS A111	EA		1										
X2	H									D	A435 SWITCH SPACER ASSEMBLY: 21035; S034024	EA	1	1										
X2	H									E	A436 SPACER, SLEEVE: 21035; 031409	EA	10	1										
X2	H									*	A437 SETSCREW: SAME AS A111	EA		1										
X2	H									D	A438 BRACKET ASSEMBLY: 21035; S034020	EA	1	1										
X2	H									E	A439 BRACKET, CRADLE: 21035; S031376	EA	1	1										
X2	H									*	A440 PIN, SPRING: 21035; P031495	EA	100	1										
X2	H									E	A441 SHAFT, SHOULDERED: 21035; 031377	EA	1	1										
X2	H									D	A442 BRACKET ASSEMBLY: 21035; S030051	EA	10	1										
X2	H									*	A443 SCREW, MACHINE PHILLIPS BINDING HEAD: SAME AS A201	EA		2										
X2	H									*	A444 WASHER, LOCK: SAME AS A183	EA		2										
X2	H									D	A445 DRIVE PULLEY ASSEMBLY: 21035; S022651	EA	1	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	(7) DS (B) 21–50	(7) DS (C) 51–100	(7) GS (A) 1–20	(7) GS (B) 21–50	(7) GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
X2	H									E	A446 SCREW, CAP, SOCKET HEAD: SAME AS A293	EA		1										
X2	H									E	A447 WASHER, LOCK: SAME AS A384	EA		1										
X2	H									E	A448 WASHER, FLAT: SAME AS A294	EA		1										
X2	H									E	A449 PULLEY, GROOVE: 21035; 031539	EA	1	1										
X2	H									*	A450 SETSCREW: SAME AS A111	EA		1										
X2	H									D	A451 SPRING, HELICAL EXTENSION: 21035; P022863	EA	10	1										
X2	H									D	A452 COLLAR AND STUD ASSEMBLY: 21035; S033880	EA	1	1										
X2	H									E	A453 COLLAR AND STUD: 21035; S022654	EA	10	1										
X2	H									*	A454 SETSCREW: SAME AS A111	EA		1										
X2	H									D	A455 DRIVE PULLEY ASSEMBLY: 21035; S022647	EA		1										
X2	H									E	A456 SCREW, CAP, SOCKET HEAD: SAME AS A293	EA		1										
X2	H									E	A457 WASHER, LOCK: SAME AS A384	EA		1										
X2	H									E	A458 WASHER, FLAT: SAME AS A294	EA		1										

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
X2	H									E	A459 PULLEY, GROOVE: 21035; 031538	EA	1	1										
X2	H									D	A460 SPACER, SLEEVE: 21035; 024453	EA	1	1										
X2	H									D	A461 COUPLING AND FLANGE ASSEMBLY: 21035; S034025	EA	1	1										
X2	H									E	A462 COUPLING AND FLANGE: 21035; S030429	EA	10	1										
X2	H									*	A463 SETSCREW: SAME AS A111	EA		1										
X2	H									D	A464 BALL, BEARING: 27545; SS440-G200	EA	100	1										
X2	H									D	A465 EXTERIOR PIN ASSEMBLY: 21035; S026757	EA	1	1										
X2	H									E	A466 PIN, SHAFT COUPLING: 21035; S026381	EA	1	1										
X2	H									E	A467 SPRING, HELICAL COMPRESSION: 21035; P026382	EA	100	1										
X2	H									E	A468 WASHER, FLAT: 21035; P026383	EA	1	1										
X2	H									*	A469 RING, RETAINING: 21035; P026384	EA	10	1										
X2	H									D	A470 WASHER, FLAT: 21035; P026671	EA	100	1										
X2	H									D	A471 SHAFT, STRAIGHT: 21035; 026371	EA	1	1										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	H									D	A472 DISC, FORK ASSEMBLY: 21035; S026366	EA	1	1										
X2	H									*	A473 SCREW, PIVOT: 21035; 026933	EA	100	1										
X2	H									*	A474 WASHER, SPRING TENSION: 21035; P012921	EA	100	1										
X2	H									E	A475 FORK: 21035; S026930	EA	1	1										
X2	H									E	A476 CONNECTING, LINK, RIGID: 21035; S026923	EA	10	1										
X2	H									E	A477 LEVER, REMOTE CONTROL: 21035; 026364	EA	1	1										
X2	H									*	A478 WASHER, SPRING TENSION: 21035; P026928	EA	100	1										
X2	H									*	A479 WASHER, FLAT: 21035; P022753	EA	100	1										
X2	H									*	A480 RING, RETAINING: SAME AS A177	EA		1										
X2	H									D	A481 MAIN FRAME ASSEMBLY: 21035; S034032	EA	1	1										
M	H									E	A482 PLATE, IDENTIFICATION: 21035; P031516	EA	10	1										
X2	H									*	A483 PIN, STRAIGHT, HEADED: 21035; P030419	EA	100	4										
X2	H									E	A484 BEARING, SLEEVE: 21035; 033527	EA	1	3										

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	H									E	A485 BEARING, SLEEVE: 21035; S033534	EA	10	1										
X2	H									E	A486 PIN, GROOVE: 73957; GP-125X0250-14	EA	100	1										
X2	H									E	A487 MOHAIR: 21035; 024636	EA	10	1										
X2	H									E	A488 FRAME, MAIN UPPER: 21035; S031514	EA	1	1										
A	F	U								C	A489 ELECTRIC CORD ASSEMBLY: 21035; S033876	EA	1	1										
P	F		5995-087-1329							D	A490 CORD ASSEMBLY, ELECTRICAL: 90816; 504-010-00508-0000-002	EA	1	1	*	2	2	*	2	2	19	16	5-1	
P	F		5325-820-7653							D	A491 GROMMET, RUBBER: 71296; 8677	EA	10	1	*	*	*	*	*	*	10	6	5-1	
P	F		5975-351-6114							C	A492 GROMMET, PLASTIC: 28520; SR5P	EA	100	1	*	*	*	*	*	*	10	6	5-1	
M	H									C	A493 HARNESS ASSEMBLY: 21035; S034030	EA	1	1										
X1	H									D	A494 TERMINAL, LUG: SAME AS A195	EA		3										
X2	H									D	A495 TERMINAL, LUG: SAME AS A072	EA		14										
X2	H									C	A496 SCREW, MACHINE PHILLIPS BINDING HEAD: SAME AS A134	EA		14										
X2	H									C	A497 NUT, JACK: 21035; 030115	EA	10	1										

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
P	O		5355-935-3649							C	A498 KNOB, VOLUME CONTROL: 21035; S034026	EA	1	1	*	2	2	*	2	2	19	6	2-2 Ⓐ	
X2	H									*	A499 SETSCREW: SAME AS A048	EA		1										
P	O		5355-935-3650							C	A500 KNOB, TONE CONTROL: 21035; P03 363	EA	10	1	*	2	2	*	2	2	19	6	2-2 Ⓐ	
X2	H									C	A501 WASHER, NONMETALLIC: 21035; P014266	EA	100	2										
X2	H									C	A502 WASHER, NONMETALLIC: 21035; P031547	EA	100	1										
X2	H									C	A503 SPEAKER, BRACKET ASSEMBLY: 21035; S031509	EA	1	1										
X2	H									*	A504 SCREW, TAPPING, THREAD CUTTING PHILLIPS BINDING HEAD: 21035; P025649	EA	100	1										
X2	H									D	A505 WIRE, ELECTRICAL: 21035; P022494	IN	10	3										
X2	H									D	A506 TERMINAL, LUG: 21035; P024999	EA	10	1										
X2	H									*	A507 SCREW, ASSEMBLED WASHER: SAME AS A348	EA		1										
X2	H									D	A508 BRACKET, SPEAKER: 21035; 031237	EA	10	1										
P	H		5965-010-4598							C	A509 SPEAKER ASSEMBLY: 21035; S031513	EA	1	1				*	*	*	10	8	5-29, 6-8	LS1
X2	H									D	A510 GASKET: 21035; 031240	EA	10	1										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X1	H									D	A511 LOUD SPEAKER-MICROPHONE: 80248; 2-AU-3	EA	1	1										
X2	H									C	A512 SHIELD: 21035; S033125	EA	10	1										
X2	H									*	A513 SCREW, ASSEMBLED WASHER: 83486; 45-04-04080	EA	100	1										
X2	H									C	A514 BOTTOM COVER ASSEMBLY: 21035; S034031	EA	1	1									2-2 Ⓑ	
X2	H									*	A515 SCREW, ASSEMBLED WASHER: 83486; 45-04-04100	EA	100	4										
X2	H									D	A516 FOOT: 70485; 255-MS-106	EA	100	4									2-2 Ⓑ	
X2	H									*	A517 NUT, HEXAGON: 73743; 3043	EA	100	4										
X2	H									*	A518 WASHER, LOCK: 21035; P012182	EA	100	4										
P	H		5930-019-4674							D	A519 SPEAKER, SWITCH ASSEMBLY: 21035; S031255	EA	1	1				*	*	2	13	10	2-2 Ⓑ 6-8	S3
X2	H									*	A520 SCREW, ASSEMBLED WASHER: SAME AS A161	EA		1										
X2	H									D	A521 BASE ASSEMBLY: 21035; S031518	EA	1	1										
A	F	U								C	A522 AMPLIFIER PLATE ASSEMBLY: 21035; S034045	EA		1										
X2	F									*	A523 SCREW, ASSEMBLED WASHER: 21035; P028503	EA	100	6										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	F									*	A524 SCREW, ASSEMBLED WASHER: 21035; P030691	EA	100	1										
P	O		5960-166-7664							D	A526 ELECTRON TUBE: 81349 12AX7	EA	1	1	2	4	6	2	4	6	187	100	6-10	V2
P	O		5960-686-8085							D	A527 SHIELD, ELECTRON TUBE: 81350; SOS-6	EA	10	1	*	*	*	*	*	*	5	13	6-10	
P	O		5960-892-3421							D	A528 ELECTRON TUBE: 81349; 12AU6	EA	1	1	2	3	6	2	3	6	130	100	6-9	V1
P	O		5960-228-5334							D	A529 ELECTRON TUBE: 81349; 35C5	EA	1	2	3	9	16	3	9	16	352	100	6-10	V3, V4
P	F		5935-832-9943							D	A530 JACK, TIP: 82042; J6-2	EA	100	1	*	*	*	*	*	*	10	2	5-30	J2
X2	F									D	A531 NUT, HEXAGON: 21035; P022838	EA	10	3										
P	H		5905-019-5005							D	A532 RESISTOR, VARIABLE, VOLUME CONTROL: 71450; GC-C2-45	EA	1	1				*	*	2	13	8	5-30, 6-8	R11
P	H		6240-179-1811							D	A533 LAMP, GLOW: 24446; NE-2	EA	10	1				*	2	2	33	100	2-2 Ⓐ 6-8	DS2
X2	H									D	A534 SHIELD, LIGHT, ELECTROSTATIC: 21035; 031400	EA	100	1										
X2	H									D	A535 CLIP, SPRING TENSION: 21035; 031411	EA	10	1										
P	O		5920-199-9498							D	A536 FUSE, CARTRIDGE: 75915; 313.500	EA	1	1	2	6	11	2	6	11	242	75	2-2 Ⓑ 6-8	F1

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
P	F		5920-892-9311							D	A537 FUSEHOLDER: 71400; HKP	EA	1	1	*	*	*	*	*	*	5	11	2-2 Ⓑ	
X2	F									D	A538 BRACKET, DOUBLE ANGLE: 21035; 030686	EA	100	1										
X2	F									D	A539 WASHER, FLAT: 21035; P031176	EA	100	1										
X2	F									D	A540 CAP, ELECTRICAL COAXIAL SHIELD: 21035; P033491	EA	10	1										
X2	F									D	A541 TERMINAL, STRIP: 21035; P022379	EA	10	1										
X2	H									*	A542 SCREW, ASSEMBLED WASHER: SAME AS A513	EA		4										
X2	F									D	A543 TERMINAL, LUG: 21035; P030450	EA	100	1										
X2	F									D	A544 TERMINAL BOARD ASSEMBLY: 21035; S030162	EA	10	1										
X2	F									*	A546 SCREW, TAPPING, THREAD CUTTING: 21035; P025319	EA	100	2										
X2	F									D	A547 TERMINAL, LUG: 21035; 025454	EA	100	1										
X2	F									D	A548 TERMINAL BOARD ASSEMBLY: 21035; S030879	EA	1	1										
X2	F									*	A549 SCREW, MACHINE PHILLIPS BINDING HEAD: 21035; P022832	EA	100	2										

REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	F									D	A550 SPACER, SLEEVE: 21035; 030166	EA	10	2										
X2	F									D	A551 SPACER, SLEEVE: 21035; 030340	EA	10	3										
A	H									D	A552 RELAY ASSEMBLY: 21035; S034035	EA	1	1										
X2	H									E	A553 COVER, ELECTRICAL RELAY: 21035; 030254	EA	1	1									5-30	
P	H		5905-195-6761							E	A554 RESISTOR, FIXED COMPOSITION: 81349; RC20GF104J	EA	10	1				*	2	2	33	6	5-30, 6-8	R37
P	H		5905-190-8874							E	A555 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF125J	EA	10	1				*	*	2	13	6	5-30, 6-8	R1
X2	H									E	A556 BRACKET, ANGLE: 21035; 030708	EA	10	1										
X2	H									E	A557 PLATE, ELECTRICAL SHIELD: 21035; 030348	EA	10	1										
X2	H									E	A558 COVER, ELECTRICAL RELAY: 21035; 030253	EA	1	1										
P	H		5945-844-7614							E	A559 RELAY, ARMATURE: 21035; P030268	EA	1	1				*	*	2	13	9	5-30, 6-8	K1
X2	H									*	A560 SCREW, MACHINE PHILLIPS FLAT HEAD: SAME AS A288	EA		2										
X2	H									E	A561 GROMMET, RUBBER: 79497; 8692A	EA	10	4										
A	H	U								D	A562 INPUT RECEPTACLE ASSEMBLY: 21035; S034034	EA	1	1									2-2 Ⓐ 6-8	

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1-20	DS (B) 21-50	DS (C) 51-100	GS (A) 1-20	GS (B) 21-50	GS (C) 51-100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	H									*	A563 SCREW, MACHINE PHILLIPS OVAL HEAD: 83486; P030244	EA	100	2										
P	H		5935-087-6193							E	A564 CONNECTOR, RECEPTACLE, ELECTRICAL: 21035; P030091	EA	1	1				*	*	2	13	14	2-2 (A) 6-8	J1
X2	H									D	A565 SPACER: 21035; P030688	EA	100	1										
										D	A566 WASHER, FLAT: SAME AS A470	EA		1										
X2	H									D	A567 SCREW, ASSEMBLED WASHER: 83486; 45-04-04120	EA	100	1										
P	H		5961-019-4801							D	A568 SEMICONDUCTOR DEVICE, DIODE: 72982; ED3004	EA	10	1				*	*	2	13	8	5-30, 6-8	CR1
P	H		5961-016-0422							D	A569 SEMICONDUCTOR DEVICE, DIODE: 21035; P034543	EA	1	2				*	2	2	19	16	5-30, 6-8	CR2, CR3
P	H		5905-019-5007							D	A570 RESISTOR, VARIABLE: 71450; UM45	EA	10	1				*	*	2	13	7	6-8	R9
P	H		5905-279-3520							D	A571 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF200J	EA	10	1				*	*	2	13	6	5-29, 6-8	R35
P	H		5905-185-8490							D	A572 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF475J	EA	10	1				*	*	2	13	6	5-30, 6-8	R12
P	H		5905-221-5842							D	A573 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF684K	EA	10	1				*	*	2	13	6	6-8	R8
P	H		5905-279-1873							D	A574 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF185J	EA	10	2				*	*	2	13	6	5-30, 6-8	R10, R25
P	H		5905-195-6761							D	A575 RESISTOR, FIXED, COMPOSITION: SAME AS A554	EA		2									5-30, 6-8	R2, R20

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	(7) DS (B) 21–50	(7) DS (C) 51–100	(7) GS (A) 1–20	(7) GS (B) 21–50	(7) GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
P	H		5905-185-8510							D	A576 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF103J	EA	10	1				*	*	2	13	6	5-30, 6-8	R31
P	H		5905-279-2519							D	A577 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF334J	EA	10	1				*	*	2	13	6	5-30, 6-8	R27
P	H		5905-192-0660							D	A578 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF184J	EA	10	1				*	*	2	13	6	5-30, 6-8	R24
P	H		5905-254-9201							D	A579 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF473K	EA	10	1				*	*	2	13	6	6-8	R4
P	H		5905-279-2517							D	A580 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF394J	EA	10	2				*	2	2	19	6	5-30, 6-8	R16, R17
P	H		5905-279-2515							D	A581 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF474K	EA	10	3				*	2	2	33	6	6-8	R3, R38, R40
P	H		5905-279-3504							D	A582 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF472J	EA	10	1				*	*	2	13	6	6-8	R5
P	H		5905-686-9413							D	A583 RESISTOR, FIXED, WIREWOUND: 63743; 5X1500	EA	1	1				*	*	2	13	11	5-30, 6-8	R39
P	H		5905-933-9213							D	A584 RESISTOR, FIXED, WIREWOUND: 75042; BWH1/2-6R8	EA	10	1				*	*	2	13	11	5-30, 6-8	R26
P	H		5905-190-8865							D	A585 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF274J	EA	10	4				*	2	2	40	6	5-30, 6-8	R6, R15, R23, R41
P	H		5905-279-3494							D	A586 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF823J	EA	10	1				*	*	2	13	6	5-30, 6-8	R14
P	H		5905-279-1877							D	A587 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF242J	EA	10	1				*	*	2	13	6	5-30, 6-8	R13
P	H		5905-686-3603							D	A588 RESISTOR, FIXED, WIREWOUND: 63743; 5X20	EA	1	2				*	2	2	19	11	5-29, 6-8	R33, R43

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
															DS			GS						
(A) SOURCE CD	(B) MAINT. C D	(C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	IND CD	(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	(A) 1-20	(B) 21-50	(C) 51-100	(A) 1-20	(B) 21-50	(C) 51-100	1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
P	H		5905-686-3615							D	A589 RESISTOR, FIXED, WIRE-WOUND: 63743; 5X2000	EA	10	1				*	*	2	13	11	6-8	R32
P	H		5905-814-8264							D	A590 RESISTOR, FIXED, WIRE-WOUND: 63743; 5X100	EA	10	1				*	*	2	13	11	5-30, 6-8	R28
P	H		5905-089-7240							D	A591 RESISTOR, THERMAL: 21035; P030227	EA	1	1				*	*	2	13	4	5-30, 6-8	R29
P	H		5905-279-1752							D	A592 RESISTOR, FIXED, COMPOSITION: 01121; EB1201	EA	10	1				*	*	2	13	6	5-30, 6-8	R34
P	H		5905-062-0721							D	A593 RESISTOR, FIXED, WIRE-WOUND: 81349; RW67V182	EA	1	1				*	*	2	13	11	6-8	R30
P	H		5905-279-1892							D	A594 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF685J	EA	100	1				*	*	2	13	6	6-8	R36
P	H		5905-221-5848							D	A595 RESISTOR, FIXED: 81349; RC20GF824J	EA	100	1				*	*	2	13	6	5-30, 6-8	R7
P	H		5905-902-7894							D	A596 RESISTOR, FIXED, WIRE-WOUND: 63743; 5X200	EA	1	1				*	*	2	13	11	6-8	R22
P	H		5905-171-1975							D	A597 RESISTOR, FIXED, COMPOSITION: 81349; RC42GF151J	EA	1	1				*	*	2	13	6	5-30, 6-8	R19
P	H		5905-279-3505							D	A598 RESISTOR, FIXED, COMPOSITION: 81349; RC20GF392J	EA	10	1				*	*	2	13	6	6-8	R42
P	H		5910-828-7977							D	A599 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 21035; P025368	EA	10	2				*	2	2	19	5	5-29, 6-8	C5, C14
P	H		5910-034-5542							D	A600 CAPACITOR, FIXED, CERAMIC: 00656; 5004014310012020	EA	10	1				*	*	2	13	5	6-8	C13
P	H		5910-990-6719							D	A601 CAPACITOR, FIXED, METALLIZED PAPER DIELECTRIC: 21035; P026839	EA	1	1				*	*	2	13	9	6-8	C11

(1)			REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE									(4)	(5)	(6)	(7) 30 DAY MAINT. ALW.						(8)	(9)	(10) ILLUSTRATIONS	
			(2) FEDERAL STOCK NUMBER	MODEL							(3) DESCRIPTION	UNIT OF ISSUE	QTY INC IN UN PK	QTY INC IN UNIT	DS			GS			1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	DEPOT MAINT. ALW. PER 100 EQUIP.	(A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
(A) SOURCE CD	(B) MAINT. CD	(C) REC. CODE		1	2	3	4	5	6	IND CD					(A) 1–20	(B) 21–50	(C) 51–100	(A) 1–20	(B) 21–50	(C) 51–100				
P	H		5910-066-5097							D	A602 CAPACITOR, FIXED METALLIZED PAPER DIELECTRIC: 21035; P026841	EA	1	1				*	*	2	13	9	5-30, 6-8	C2
P	H		5910-666-7621							D	A603 CAPACITOR, FIXED CERAMIC: 71590; BB20-470M-SZL	EA	10	1				*	*	2	13	5	5-30, 6-8	C1
P	H		5910-034-5540							D	A604 CAPACITOR, FIXED CERAMIC: SAME AS A088	EA		3									5-29, 5-30, 6-8	C3, C10, C16
P	H		5910-943-6708							D	A605 CAPACITOR, FIXED CERAMIC: 21035; P029301	EA	10	1				*	*	2	13	5	6-8	C12
P	H		5910-034-5581							D	A606 CAPACITOR, FIXED ELECTROLYTIC: 21035; P033859	EA	10	1				*	2	2	19	8	5-30, 6-8	C19
P	H		5910-089-0021							D	A607 CAPACITOR, FIXED CERAMIC: SAME AS A131	EA		4									5-30, 6-8	C4, C6, C7, C8
P	H		5910-066-5085							D	A608 CAPACITOR, FIXED METALLIZED PAPER DIELECTRIC: 21035; P028088	EA	1	1				*	*	2	13	9	5-30, 6-8	C22
P	H		5910-066-5081							D	A609 CAPACITOR, FIXED CERAMIC: 21035; P031101	EA	10	1				*	*	2	13	5	5-30, 6-8	C18
P	H		5910-066-5062							D	A610 CAPACITOR, FIXED CERAMIC: 21035; P025449	EA	1	1				*	*	2	13	5	6-8	C20
P	H		5910-034-5608							D	A611 CAPACITOR, FIXED, PLASTIC DIELECTRIC: 00656; P161NZ34C	EA	1	1				*	*	2	13	5	6-8	C21
P	H		5910-089-7243							D	A612 CAPACITOR, FIXED ELECTROLYTIC: 21035; P031259	EA	1	1				*	2	2	19	8	5-30, 6-8	C15
A	H	U								D	A613 AMPLIFIER PLATE ASSEMBLY: 21035; S031511	EA	1	1										

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
X2	F									*	A614 SCREW, ASSEMBLED WASHER: SAME AS A523	EA		1										
P	H		5950-828-7990							E	A615 TRANSFORMER: 21035; P031383	EA	1	1				*	*	2	13	6	5-30, 6-8	T1
X2	H									E	A616 EYELET, METALLIC: 21035; P029327	EA	100	2										
X2	H									E	A617 INSULATOR BOARD AND BRACKET: 21035; S034028	EA	1	1										
X2	H									E	A618 BRACKET, ELECTRICAL CONNECTOR: 21035; 030092	EA	10	1										
X2	H									D	A619 SPACER, SLEEVE: 21035; 030687	EA	10	1										
X2	F									C	A620 HOUSING ASSEMBLY: 21035; S034033	EA	1	1										
X2	F									*	A621 SCREW, ASSEMBLED WASHER: SAME AS A523	EA		4										
X2	F									D	A622 CLIP, SPRING TENSION: 21035; P030104	EA	10	2										
X2	F									D	A623 GRILLE, METAL: 21035; 033411	EA	1	1										
X2	F									D	A624 BEZEL, INSTRUMENT MOUNTING: 21035; P030097	EA	10	1										
X2	F									D	A625 RING, RETAINING: 21035; P010866	EA	100	1										
X2	F									D	A626 CABLE ASSEMBLY: 21035; S030298	EA	1	1										

(1) (A) SOURCE CD	(1) (B) MAINT. C D	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
X2	F									D	A627 TRIM, BASE: 21035; 033409	EA	1	2										
X2	F									D	A628 NUT, SHEET SPRING: 78553; C720-012-27	EA	100	4										
X2	F									D	A629 HOUSING ASSEMBLY: 21035; S031793	EA	1	1										
X2	F									C	A630 WASHER, NONMETALLIC: 21035; P030339	EA	100	1										
X2	F									C	A631 SPACER, SLEEVE: SAME AS A551	EA		2										
X2	F									C	A632 SPACER, SLEEVE: 21035; 030688	EA	100	1										
X2	F									C	A633 SPACER, SLEEVE: 21035; 030689	EA	100	1										
X2	H									C	A634 SPACER, SLEEVE: SAME AS A619	EA		2										
X2	H									C	A635 SCREW, MACHINE PHILLIPS BINDING HEAD: SAME AS A134	EA		2										
X2	F									C	A636 CARD AND ENVELOPE ASSEMBLY: 21035; S034394	EA	10	1										

SECTION V. SPECIAL TOOLS, TEST AND SUPPORT EQUIPMENT FOR DIRECT SUPPORT, GENERAL SUPPORT AND DEPOT MAINTENANCE

(1) (A) SOURCE CD	(1) (B) MAINT. CD	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	(7) DS (B) 21–50	(7) DS (C) 51–100	(7) GS (A) 1–20	(7) GS (B) 21–50	(7) GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
	C	R	7450-999-6085							RECORDER-REPRODUCER SET, SOUND AN/TNH-16: 21035; (This item is nonexpendable.)													
	H		5120-933-4565							RELAY CONTACT ADJUSTING TOOL: 04563; N-1631	EA	1					1	1	1	5	1		
	H		5120-933-4566							1/4 HEX, STUBBY NUT DRIVER, DRILLED: 21035; P24319	EA	1					1	1	1	5	1		
	H		5120-933-4568							ADJUSTMENT TOOL ASSEMBLY: 21035; S33304	EA	1					1	1	1	5	1		
	H		5120-933-4569							TENSION GAUGE TIP ASSEMBLY: 21035; S34597	EA	1					1	1	1	5	1		
	H		5120-933-4571							#4 ALLEN EXTENSION KEY: 21035; 95035	EA	1					1	1	1	5	1		
	H		5120-933-4572							#6 ALLEN EXTENSION KEY: 21035; 95037	EA	1					1	1	1	5	1		
	H		5355-933-4570							KNOB ASSEMBLY: 21035; S34598	EA	1					1	1	1	5	1		

SECTION VI. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER

FEDERAL STOCK NUMBER	INDEX NO.	FEDERAL STOCK NUMBER	INDEX NO.	FEDERAL STOCK NUMBER	INDEX NO.
3030-087-0499	A046	5905-190-8874	A555	5910-990-6719	A601
4010-087-2908	A351	5905-192-0660	A578	5920-199-9498	A536
4140-087-2956	A047	5905-195-6761	A554	5920-892-9311	A537
5325-820-7653	A491	5905-221-5842	A573	5930-019-4674	A519
5330-818-4355	A051	5905-221-5848	A595	5930-061-5950	A149
5340-200-6391	A077	5905-254-9201	A579	5930-061-5951	A257
5355-089-5526	A178	5905-279-1752	A592	5930-756-0295	A016
5355-935-3648	A124	5905-279-1873	A574	5930-828-7889	A150
5355-935-3649	A498	5905-279-1877	A587	5935-087-6193	A564
5355-935-3650	A500	5905-279-1892	A594	5930-503-1764	A034
5835-010-4307	A230	5905-279-2515	A581	5935-832-9943	A530
5835-010-4453	A283	5905-279-2517	A580	5945-053-1533	A265
5835-015-9559	A103	5905-279-2519	A577	5945-844-7614	A559
5835-016-0024	A110	5905-279-3494	A586	5950-027-2938	A095
5835-021-2520	A056A	5905-279-3504	A582	5950-828-7990	A615
5835-021-2521	A003	5905-279-3505	A598	5960-166-7664	A526
5835-034-4976	A204B	5905-279-3520	A571	5960-228-5334	A529
5835-034-4994	A199	5905-686-3603	A588	5960-686-8085	A527
5835-034-5005	A026	5905-686-3615	A589	5960-892-3421	A528
5835-054-3302	A287	5905-686-9413	A583	5961-016-0422	A569
5835-054-3311	A284	5905-814-8264	A590	5961-019-4801	A568
5835-054-3318	A113	5905-902-7894	A596	5965-010-4598	A509
5835-089-8544	A037	5905-933-9213	A584	5965-603-4983	A032
5835-314-2104	A031	5910-034-5540	A088	5975-351-6114	A492
5835-826-5427	A282	5910-034-5542	A600	5995-087-1329	A490
5835-997-4680	A367	5910-034-5581	A606	6105-089-2728	A073
5905-019-5005	A532	5910-034-5608	A611	6240-179-1811	A533
5905-019-5007	A570	5910-066-5062	A610	6240-583-9610	A165
5905-021-2597	A170	5910-066-5081	A609	7450-059-5878	A008
5905-062-0721	A593	5910-066-5085	A608	7450-059-5903	A418
5905-089-7240	A591	5910-066-5097	A602	7450-059-6004	A033
5905-171-1975	A597	5910-089-0021	A131	7450-060-3784	A157
5905-185-6580	A087	5910-089-7243	A612	7450-060-3785	A194
5905-185-8490	A572	5910-666-7621	A603	7450-064-4628	A030
5905-185-8510	A576	5910-828-7977	A599	7450-836-5237	A035
5905-190-8865	A585	5910-943-6708	A605	7450-935-0147	A204

SECTION VI. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER (CONTINUED)

FEDERAL STOCK NUMBER	INDEX NO.
7450-999-6085	A001
7450-999-6697	A002
7450-999-6700	A027
7490-089-4792	A029A
7490-089-4793	A029C
7490-600-1988	A029
7490-600-2012	A079
7530-087-2901	A311

REF NUMBER	INDEX NUMBER
C720-012-27	A628
GP-125X0250-14	A486
JS-6	A426
PBH35-07-04062	A340
PL-10	A354
P010854	A286
P010866	A625
P012182	A518
P012309	A159
P012315	A223
P012348	A007
P012900	A187
P012917	A427
P012921	A474
P014266	A501
P02111	A059
P022015	A388
P022116	A041
P022184	A098
P022344	A379
P022369	A389
P022379	A541
P022396	A148
P022397	A097
P022402	A205
P022405	A266
P022408	A404
P022414	A111
P022417	A048
P022421	A126
P022426	A189
P022428	A083
P022430	A076
P022433	A183
P022436	A075
P022438	A116
P022439	A384
P022442	A335
P022443	A288
P022444	A056
P022451	A065
P022452	A109
P022454	A064
P022456	A060
P022470	A117
P022492	A100
P022493	A424
P022494	A505
P022496	A167
P022499	A252
P022502	A423
P022546	A179
P022613	A314
P022681	A057
P022741	A339
P022753	A479
P022832	A549
P022838	A531
P022853	A177
P022863	A451
P022889	A328
P022906	A331
P022909	A358
P022912	A108
P024041	A425
P024514	A294
P024576	A151
P024607	A163
P024630	A207
P024639	A146
P024642	A085
P024644	A067
P024702	A055
P024756	A182
P024757	A201
P024983	A091
P024999	A506
P025049	A372
P025186	A206
P025189	A132
P025211	A168
P025212	A296
P025213	A295
P025223	A300
P025319	A546
P025345	A094
P025640	A045
P025649	A504
P025968	A115
P026044	A080
P026060	A089
P026086	A112
P026134	A107
P026143	A173
P026172	A106
P026310	A385
P026382	A467
P026383	A468

SECTION IV. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER (CONTINUED)

REF NUMBER	INDEX NO.
P026384	A469
P026595	A029B
P026641	A278
P026671	A470
P026928	A478
P028208	A317
P028330	A209
P028481	A260
P028502	A371
P028503	A523
P028505	A348
P028507	A161
P028515	A215
P028527	A247
P028592	A368
P028593	A155
P028928	A251
P029058	A395
P029099	A058
P029217	A306
P029327	A616
P029379	A211
P029402	A099
P029405	A253
P029406	A166
P030059	A412
P030097	A624
P030104	A622
P030111	A120
P030114	A129
P030142	A196
P030158	A229
P030195	A324
P030244	A563
P030269	A195
P030284	A219
P030339	A630
P030419	A483
P030444	A391
P030445	A325
P030450	A543
P030645	A203
P030649	A072
P030688	A565
P030691	A524
P030789	A185
P030907	A355
P031176	A539
P031323	A248
P031344	A244
P031352	A213
P031381	A304
P031457	A009
P031458	A013
P031459	A012
P031464	A023
P031465	A011
P031467	A006
P031468	A018
P031469	A020
P031474	A021
P031476	A004
P031477	A022
P031495	A440
P031516	A482
P031546	A268
P031547	A502
P031548	A202
P032192	A369
P032981	A323
P033148	A271
P033491	A540
P033539	A258
P033776	A280
P033825	A293
P033826	A381
P033828	A383
P033841	A082
P033846	A420
P033872	A289
P034018	A014
P034049	A005
P034050	A010
P034051	A015
P034054	A017
P034058	A019
P034059	A024
P034815	A025
P-120	A036
P30696	A204A
S020072	A101
S022163	A144
S022212	A370
S022277	A181
S022647	A455
S022651	A445
S022654	A453
S024676	A068
S024933	A345
S025441	A359
S025442	A363
S025447	A362
S026349	A301
S026360	A180
S026366	A472
S026381	A466
S026757	A465
S026923	A476

SECTION VI. INDEX-FEDERAL STOCK NUMBER CROSS REFERENCE TO INDEX NUMBER (CONTINUED)

REF NUMBER	INDEX NO.	REF NUMBER	INDEX NO.	REF NUMBER	INDEX NO.
S026930	A475	S031506	A135	S034044	A334
S028551	A352	S031509	A503	S034045	A522
S030021	A038	S031511	A613	S034046	A305
S030033	A061	S031514	A488	S034394	A636
S030051	A442	S031518	A521	SS440-G200	A464
S030063	A407	S031793	A629	022012	A158
S030064	A416	S031798	A316	022141	A403
S030071	A084	S031889	A292	022211	A377
S030119	A343	S033012	A262	022291	A145
S030127	A127	S033125	A512	022656	A382
S030143	A212	S033266	A171	022657	A380
S030162	A544	S033403	A184	024019	A290
S030247	A138	S033534	A485	024453	A460
S030298	A626	S033804	A302	024520	A063
S030400	A349	S033876	A489	024612	A393
S030401	A356	S033880	A452	024613	A394
S030429	A462	S033882	A399	024634	A154
S030432	A392	S033883	A417	024636	A487
S030693	A139	S033885	A402	024675	A053
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5-9	L1	A265
5-13	B1	A073
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	R43	A588
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	C3	A604
	C4	A607
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	C7	A608
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	C10	A604
	C15	A612
	C16	A604
	C17	A131
	C18	A609
	C19	A606
	C22	A608
	CR1	A568
	CR2	A569
	CR3	A569
	J2	A530
	K1	A559
	R1	A555
	R2	A575
	R6	A585
	R7	A595
	R10	A574
	R11	A532
	R12	A572
	R13	A587
	R14	A586
	R15	A585
	R16	A580
	R17	A580
	R19	A597
	R20	A575
	R23	A585
	R24	A578
	R25	A574
	R26	A584
	R27	A577
	R28	A590
	R29	A591
	R31	A576
	R34	A592
	R37	A554
	R39	A583
	R41	A585
	T1	A615
6-7	L2	A095
6-8	B1	A073
	C1	A603
	C2	A602
	C3	A604
	C4	A607
	C5	A599
	C6	A607
	C7	A608
	C8	A607
	C9	A088
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	C17	A131
	C18	A609
	C19	A606
	C20	A610
	C21	A611
	C22	A608
	CR1	A568
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	DS1	A165
	DS2	A533
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	MK1	A032
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	R13	A587
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	R43	A588			
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	S3	A519			
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	S4-2	A150			
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C7	A608
C8	A607
C9	A088
C10	A604
C11	A601
C12	A605
C13	A600
C14	A599
C15	A612
C16	A604
C17	A131
C18	A609
C19	A606
C20	A610
C21	A611
C22	A608
CR1	A568
CR2	A569
CR3	A569
DS1	A165
DS2	A533
F1	A536
J1	A564
J2	A530
K1	A559
L1	A265
L2	A095
LS1	A509
MK1	A032
PU1	A204
PU2	A230
R1	A555
R2	A575
R3	A581
R4	A579
R5	A582
R6	A585
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R8	A573
R9	A570
R10	A574
R11	A532
R12	A572
R13	A587
R14	A586
R15	A585
R16	A580
R17	A580
R18	A087
R19	A597
R20	A575
R21	A170
R22	A596
R23	A585
R24	A578
R25	A574
R26	A584
R27	A577
R28	A590
R29	A591
R30	A593
R31	A576
R32	A589
R33	A588
R34	A592
R35	A571
R36	A594
R37	A554
R38	A581
R39	A583
R40	A581
R41	A585
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By Order of the Secretary of the Army:

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NG: State AG (3).
USAR: None.
For explanation of abbreviations used, see AR 320–50.

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